Multispecies Encounters

THE GIANT SQUID IN TRANSATLANTIC CULTURE

THE MONSTERIZATION OF MOLLUSCS

Otto Latva

ROUTLEDGE

THE GIANT SQUID IN TRANSATLANTIC CULTURE

This book builds upon the extensive study of the historical relationship between sea animals and humans in transatlantic culture during the eighteenth and nineteenth centuries. It exposes the present understanding of the human relationship with the giant squid not only as too simplistic but also as historically inaccurate. For instance, it redefines the earlier understanding that humans and especially seafarers have understood giant squid as horror-evoking and ugly creatures since the dawn of history and explains the origins of mythical sea monsters such as the Kraken. The book is, however, more than a critical response to previous work. It will point out that animals such as cephalopods, which have largely been defined in biological contexts in recent times, have a fascinating and multivariate past, entangled with the history of humans in many remarkable ways. Hence, this book is not just about perceptions of giant-sized squid or cephalopods, but a historical inquiry into the transatlantic culture from the late eighteenth century to the turn of the twentieth century. It will provide new knowledge about the history of mollusc studies, seafaring culture and more broadly of the relationship between humans and animals during the period.

Otto Latva is a historian focusing on human-animal and human-plant studies as well as environmental history. He has studied widely the early modern as well as the nineteenth-century and twentieth-century societies and cultures. In his previous studies, Latva has especially investigated the shared history of humans and animals and the long-term understanding of the marine environment. He is currently working as a university lecturer in Cultural Heritage Studies at the University of Turku, Finland. He also leads a research project *Disappeared, Endangered and Newly Arrived Species: The Human Relationship with the Changing Biodiversity of the Baltic Sea* (HumBio), funded by the Academy of Finland.

Multispecies Encounters

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The Giant Squid in Transatlantic Culture

The Monsterization of Molluscs

Otto Latva

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For my father Pekka Latva (1947–2021), who laid the foundations for this book by creating an inspirational childhood environment for me to grow up as a researcher and historian.

For my wife Johanna and children Akseli and Eero.

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Abbreviations

ASC	Archives and Special Collections of the Queen Elizabeth II Library (St. John's, Newfoundland, Canada)
CAM	Cape Ann Museum (Gloucester, MA, USA)
CNS	Center for Newfoundland Studies of the Queen Elizabeth II Library (St. John's, Newfoundland, Canada)
KWE	The Kendall Whaling Museum (The New Bedford Whaling Museum governs collections; New Bedford, MA, USA)
NHA	The Research Library of the Nantucket Historical Association (Nantucket, MA, USA)
ODHS	The Old Dartmouth Historical Society (The New Bedford Whaling Museum governs collections; New Bedford, MA, USA)
PANL	Provincial Archives of Newfoundland and Labrador (St. John's, Newfoundland, Canada)
PSPC	Paul Sparkes's Private Collection (St. John's, Newfoundland, Canada)
SIA	The Smithsonian Institution Archives (Washington, DC, USA)
SHD	Service historique de la défense antenne de Toulon (Toulon, France)
YPMN	Yale Peabody Museum of Natural History (New Haven, Connecticut, USA)

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Introduction

Humans, cephalopods, and history

The giant squid and its monstrosity

In the late nineteenth century, the existence of the enormous squid species, scientifically classified as *Architeuthis* and publicly known as *the giant squid*, came to the knowledge of the wider transatlantic audience. Unlike numerous other animals scientifically classified during this period, these squid did not disappear into the vast catalog of taxonomy.[1] Instead, contemporaries ascribed to these squid strong cultural meanings, defining them as frightening creatures. Numerous writings about these animals wildly exaggerated their size and implied that sightings of them provided the explanation for many of the sea monsters of lore.[2]

"Vicious," "abhorrent," and "repulsive" were standard adjectives used to describe the large squid in the late nineteenth century. Numerous texts and illustrations depicting the species of giant squid as an abhorrent sea monster circulated in the pages of the press and literature published in Europe and North America from the 1870s.[3] Even contemporary scientists, directly or indirectly, defined the giant squid as monster-like animals in their research articles and treatises.[4]

This book explores how the giant squid came to be one of the animal monsters in the transatlantic culture, and how this way of understanding these marine molluscs arose. Previous inquiries and writing about the giant squid imply that the late nineteenth-century understanding of them as monsters simply reflects the age-old understanding of these animals. These studies suggest that humans have understood enormous squid as horror-evoking beings throughout history.[5] Some of them, for instance, describe the fear evoked by giant-sized squid as explaining the origins of sea monster entities such as the Kraken, familiar from Scandinavian lore.[6] They also imply that the perception of enormous squid as monsters derives from a seafaring culture in which exaggerated accounts of ordinary but sizeable squid were gradually transformed into monster stories.[7]

As this book shows, the understanding of enormous squid suggested by previous studies is problematic because the idea of a universal and eternal understanding of an animal enduring numerous epistemic and paradigmatic shift gives the impression of a historical anomaly. Moreover, the sources analyzed for this book reveal that the conception of the enormous squid as an animal monster does not derive solely from seafaring culture, is not age-old, and does not represent a universal

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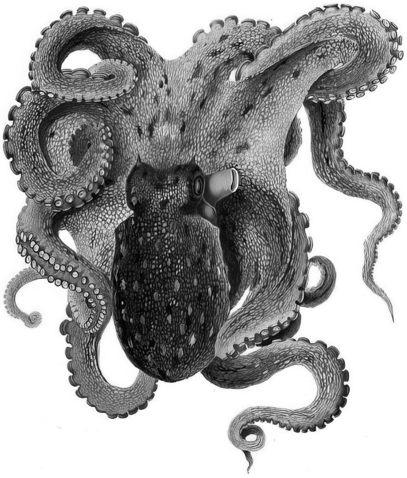
phenomenon. Instead, contra the conventional wisdom, this understanding evolved as a product of the Enlightenment way of thinking and perceiving nature.

The central theme of this book is why enormous squid became defined as animal-monsters during the eighteenth and nineteenth centuries. Unlike previous studies, which have primarily focused on written sources by zoologists and renowned novelists such as Jules Verne, this book emphasizes that the historical understanding of giant-sized squid emerged from much more diverse sources including numerous discourses and actors.[8] It is true that renowned zoologists and novelists contributed to the understanding of enormous squid, and their writings will also be examined in this book. Nevertheless, there were plenty of other people such as popularizers of science, journalists, and amateur naturalists participating in the conceptualization of the monster squid. In addition, ordinary people, especially seafarers such as whalers, fishermen, and sailors of the merchant navy had a long history with enormous squid.

This book shows how all the groups mentioned above understood and defined enormous squid. Recognition of the multiplicity of the people that participated in the definition of giant-sized squid is essential. Ignoring some of the groups mentioned above would give us a distorted interpretation of the historical relationship between enormous squid and humans, as all of these groups participated in the conceptualization of the giant squid, but their methods of defining and understanding sizeable squid differed fundamentally. For instance, seafarers' knowledge of enormous squid was primarily derived from those they had seen in nature. However, the majority of zoologists, novelists, and other writers did not create their definition of enormous squid from



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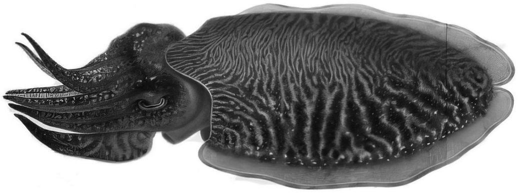
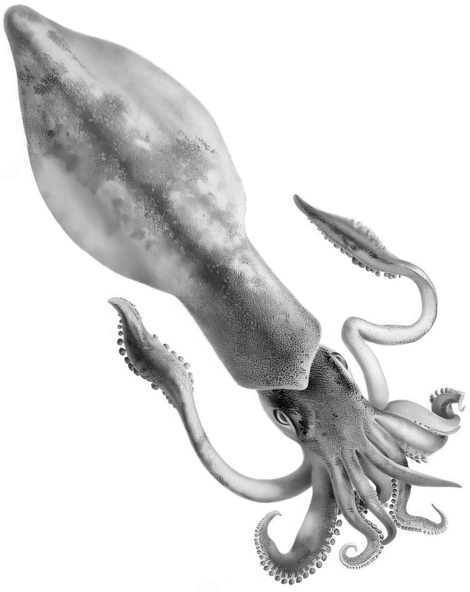
Source: di Giuseppe 1896, Tav. 3.





Figures I.1–I.3 (Continued).

observation of actual squid. Instead, they generated their understanding by reading the ancient, early modern, and contemporary texts about *cephalopods*, that is, squid and other animals resembling them such as octopuses and cuttlefish (Figures I.1–I.3).

It is impossible to get a comprehensive understanding of why people began to understand these squid as animal-monsters without taking into consideration the influence of all the actors who defined these animals. Moreover, it was not only human actors, who affected perception of the enormous squid, but the squid themselves through their own agency.

Many of the giant-sized squid witnessed in the past were already dead when people encountered them. In addition, many people only saw body parts of these squid and formulated their understanding of them by contextualizing the remains in popular knowledge about sizeable cephalopods. Thus, the sizeable squid, dead or alive, whole or incomplete, made an essential contribution in formulating the transatlantic understanding of themselves. The presence of these animals in eighteenth- and nineteenth-century texts cannot be explained merely as derived from past literary or pictorial representations. As historian Sandra Swart mentions, "[animals] undeniably exist in a way that sits uneasily with postmodern insistence on textual primacy."[9] Similarly, historian Susan Nance states that we should see all history as *interspecific*.[10] These statements apply especially in the case of giant-sized squid, because the bodies of some squid made the encounters with these animals and humans possible in the first place; many of the most sizeable squid inhabit the depths of the sea and some of them appear on the surface only because of their buoyancy caused by the ammonium chloride in their bodies.[11]

Monsterization, transforming something into a monster, and the concept of the *monster* are central for this book. *Monster* is now an ambiguous concept, which in its broadest sense means something threatening and the other.[12] The Oxford English Dictionary (OED) suggests that during recent few centuries, the word *monster* has denoted generally "any imaginary creature that is large, ugly, and frightening."[13] The OED's explanation of monster accurately describes the monstrousness associated with the giant squid. Largeness, ugliness, and especially frightfulness were the supreme characteristics defining the monsterization of the giant-sized squid. Thus, in this book, *monster* means primarily a threatening creature that was regarded as large, ugly, or frightening, or all three.

I have dated the monsterization of enormous squid to the period from the 1760s to the 1890s. This era is intriguing because there is a widespread impression that the eighteenth-century, Age of Enlightenment and the power of science, categorizing and classifying nature replaced the earlier way of perceiving animals as wonders and spectacles.[14] As this book will show, the modern era and the idea of progress did not dismiss monsters from the world, but created whole new monstrosities.

The book begins in the 1760s when the first sources explicitly defining enormous squid as belonging to the *species of squid* appear. This occurred because of a paradigmatic shift in how transatlantic culture understood animals. In the mid-eighteenth century, taxonomical classification had already established its position as the dominant way to perceive nature.[15] For instance, descriptions of giant-sized squid written before the 1760s primarily defined them as natural curiosities and wonder creatures, instead of explaining them as species of *squid*.[16] The inquiry will end in the 1890s, when describing enormous squid as monsters became an established way to define these animals in transatlantic culture. The study is framed around a common culture of understanding, the transatlantic, rather than taking a geographically defined area as its basis. This cultural focus excludes understanding of cephalopods in other cultures, for instance, those of Asia and Oceania, which significantly differed from that of Europe and North America.[17]

Because of the time frame mentioned above, this book explores how the understanding of enormous squid was formulated before the concept developed to the point that *giant squid* became a widely recognized term. I see the distinction between the different definitions of enormous squid and the concept of the giant squid as extremely important because a term such as *giant squid*, meaning the species of *Architeuthis*, did not exist before the late nineteenth century.

In the late eighteenth and the early nineteenth century, many massive squid species, for which we have names in scientific context and the ordinary language today, swam in the oceans without any distinctive names.[18] Thus, it is problematic to speak about the giant squid in the context of the eighteenth and nineteenth centuries, or even during earlier periods such as antiquity and the early modern era, as all previous studies have hitherto done.[19] We cannot assume that when people talked about enormous squid in the eighteenth and nineteenth centuries, they would have discussed about the species of giant squid. The zoological knowledge of cephalopods was still developing and no widely recognized system of comparing these animals existed. Thus, people may have perceived any moderate-sized squid as giant sized or enormous.

My solution to the above challenge is generally to avoid using the present nomenclature in this book, as the current terminology for the squid is rarely commensurate with the concepts used during the time frame of this study. However, I do use terms in a way that they were not used in the eighteenth and nineteenth centuries. I will use the word *squid* to refer to all the animals representing the concept of squid known today, employing terms such as *sizeable squid*, *giant-sized squid*, and *enormous squid* when I describe such squid mentioned in sources. In addition, I will use the word *cephalopod* as an umbrella term for octopuses, squid, and cuttlefishes as defined today.

People used the terms *squid* and *cephalopod* only occasionally during the period 1760 to 1900. From the beginning of the eighteenth century, the word *squid* was used primarily by Newfoundland settlers and sailors speaking English. However, for them it meant all kinds of squid-like animals that squirt ink.[20] It was not until the last decades of the nineteenth century that *squid* established its present meaning in English.[21] The word *cephalopod*, which is Greek and means *head footed*, [22] appeared for the first time in texts by French naturalists at the beginning of the nineteenth century. It was the first term to distinguish octopuses, squid and cuttlefishes, but also nautiluses; that is, such animals as are characterized by a prominent head attached to a set of arms or tentacles. Natural scientists have mainly used this term. During the nineteenth century, it was used primarily by people acquainted with the zoological study of such animals.[23] The reason for my decision to use the terms *squid* and *cephalopod* is that these are the most unambiguous words from the historical as well as the present perspective to represent such animals.

The present understanding of the species of giant squid is largely based on the knowledge provided by natural sciences and popular culture since the late nineteenth century. Today, as it has been since the late nineteenth century, the *giant squid* is understood to be the species of squid belonging to the genus *Architeuthis*. What has changed is that biologists have succeeded in attaining more knowledge about *Architeuthis* than zoologists had in 1900. It is known today that the giant squid can attain an approximate length of 13 meters from the posterior fins to the tip of the two tentacles and that it is presumed to live at depths of 300 to 1000 meters or more. It is also known that the distribution of the giant squid is worldwide.[24] Nevertheless, there are still many gaps in our knowledge about these animals. For instance, there is no precise knowledge about the taxonomy, population size, or life cycles of the giant squid. Only recently have genome studies shed light on the taxonomy of these squid, suggesting that instead of various species of giant squid there is only one global species, *Architeuthis dux*.[25]

In the context of popular culture, the giant squid has been defined as one of the most renowned sea monsters, together with the white shark, from the turn of the nineteenth and twentieth century. In movies such as *Reap the Wild Wind* (1942), *Twenty Thousand Leagues Under the Sea* (1954), *The Beast* (1991), and *The Meg* (2018); novels and short stories such as *The Sea Riders* (1869) by H. G. Wells, *Dr. No* (1958) by Ian Fleming, *Shipping News* (1993) by Annie Proulx, and *Kraken* (2010) by China Miéville; or video games such as *World of Warcraft* and *Bioshock*, the giant squid is the primary cephalopod monster lurking in the depths and occasionally emerging to rip humans and their boats apart. A giant squid also inhabits the lake near Hogwarts Castle in J. K. Rowling's Harry Potter novels. In addition, the late-nineteenth-century stories about the monster squid most likely inspired the American horror novelist H. P. Lovecraft to create his famous demigod Cthulhu, a gigantic creature with tentacles protruding from its head, in the 1920s.

Altogether, this book reveals why and how the species of squid, known today as a *giant squid*, became to be understood as a monster. It will redefine the current understanding of the historical relationship between giant-sized squid and humans. The study will expose the present understanding of the giant squid as too simplistic and moreover inadequate to withstand historical analysis, but it is more than a critical response to previous work. It will point out that animals such as cephalopods, which have largely been defined in biological contexts in recent times, have a fascinating and multivariate past entangled with the history of humans in many remarkable ways. Hence, this work is not just about perceptions of giant-sized squid or cephalopods, but a historical inquiry into transatlantic animal-human culture from the late eighteenth century to the turn of the twentieth century. It will provide new knowledge about the history of mollusc studies, seafaring culture, and more broadly of the relationship between humans and animals during the time frame of this inquiry.

Moreover, although the book explores the relationship between humans and animals in the eighteenth and nineteenth centuries, its importance extends to this day. The monsterization of an animal at the centre of the book is not just a phenomenon of the past and has not only targeted giant squid. People have given different meanings to animals and other living beings both in the past and today. This book shows that explaining animals as frightening and/or unpleasant is not based on the natural characteristics of these beings, but something that we humans culturally define them. Understanding such meaning-making and monsterization of animals and other living beings is of utmost importance, especially today when we are threatened by various environmental disasters such as biodiversity loss. To prevent increasing species loss, we must first understand how we have defined our relationship with the animals we see in a negative light. The monsterization of the giant squid presented in this book is a very good example of such meaning-making process, as it highlights in detail and comprehensively how we learn to understand some animals as repulsive creatures.

How has one looked at the giant squid in the twentieth century?

This book is the first extensive historical inquiry on the giant squid.[26] Hitherto, marine biologists have mainly studied such enormous squid as a species of giant squid.[27] Only a few studies and non-fiction books that discuss the historical and cultural perception of this animal have been published since the beginning of the twentieth century. *Dans le sillage des Monsters Marins* (1958) by the cryptozoologist Bernand Heuvelmans and *The Search for the Giant Squid* (1999) by the marine biologist and artist Richard Ellis are the most renowned of these.[28] The clear majority of recent studies about the giant squid refer to one or both of these books when explaining the historical understanding of the giant squid.[29] However, it is remarkable that although Heuvelmans and Ellis reveal numerous exciting details of the history of these squid, both of their treatises problematically emphasize that people, especially seafarers, have universally understood enormous squid as frightening monsters since the dawn of history.[30]

Although the historical interpretations in the books by Heuvelmans and Ellis have similarities, their approach to the subject is somewhat different. Heuvelmans approaches the subject with a cryptozoological method, and Ellis approaches the history of the giant squid primarily by referring to the historical sources and the cryptozoological interpretations of its history without comprehensive contextualization of the primary sources.

The first studies of the giant squid using the cryptozoological approach appeared in the 1940s and 1950s.[31] As Samantha Hurn mentions, cryptozoology studies animals for which there is no empirical evidence, only oral and eyewitness accounts. These accounts are the primary sources for cryptozoologists, which they treat as empirical evidence. Cryptozoology looks at mythological creatures such as the Yeti or the Loch Ness Monster from the perspective of biology, so it can be considered the biology of mythical creatures but is generally regarded as pseudoscience.[32] Cryptozoological study gradually became popular after the works by Heuvelmans and the American naturalist Ivan T. Sanderson appeared in the 1950s and 1960s. Since the 1970s, encouraged by Heuvelmans' and Sanderson's example, a growing number of academics and other writers have explored mythical animals. The *International Society of Cryptozoology* was founded in 1982 and many scholars who define themselves as cryptozoologists are active even today.[33]

Heuvelmans' *Dans le sillage des monstres marins* is an influential book in the field of cryptozoology, but it also remains the most exhaustive overview of the history of such sea monsters as Kraken and colossal octopuses, in addition to the historical writings about enormous squid.[34] Nevertheless, Heuvelmans' book is problematic from the perspective of historical research, as it uses the cryptozoological approach to analyze old sources. His purpose was not to analyze how people understood sizeable cephalopods in the past, but to explain with the help of historical sources that there may be even larger squid in the seas than those classified as giant squid. He believed that these *calmar de super-géant* provided explanations for various mythical sea monster tales from antiquity to the twentieth century.[35] Thus, Heuvelmans' starting point was to describe all sizeable cephalopods as sea monsters and otherwise mysterious creatures.[36] He does not question why the historical sources have represented these animals as monsters, instead taking these sources as a proof of their monstrousness.

Heuvelmans has not been the only one to speculate about the existence of yet undiscovered and immense squid by using historical sources. Other cryptozoological writers such as Willy Ley and Ivan T. Sanderson, active in the mid-twentieth century, also wrote texts that included such hypotheses.[37] None of them, however, have achieved the same influence as Heuvelmans has regarding enormous squid and their history, or written such an exhaustive historical overview of them as he did. Some biologists such as C. G. M. Paxton continue Heuvelmans' work.[38]

These cryptozoological authors and especially Heuvelmans, who made a comprehensive collection for his book, have been an invaluable help to me in locating historical sources. Nevertheless, although this study analyzes many of the same sources that the cryptozoologists used, my approach to them is fundamentally different. As a result, this study will question and redefine many of the cryptozoological interpretations about the history of enormous squid.

The approach used by various previous studies such as those written by Ellis to explore the historical understanding of the giant squid differs considerably from the cryptozoological method. The primary difference between them is the lack of a purpose-orientated method to use historical sources to prove the existence of yet undiscovered animals. Unlike the cryptozoological studies of the giant squid, these studies and popular-science writings aim to explain the historical understanding of the giant squid. Despite this approach, these studies and writings still imply that people have universally understood these animals as monsters throughout history.

From the 1960s, writers such as Arthur C. Clarke and marine biologists such as Fredrick Aldrich began to write texts popularizing the history of the giant squid.[39] In these texts, they referred to historical sources such as the late nineteenth-century writings about the giant squid as well as the cryptozoological works. They did not make any profound historical analysis, but took the information provided by these sources more or less as given. Thus, the overarching theme in all these nonfictional and biological writings was their acceptance of the giant squid as mysterious and frightening monsters.[40]

During the past four decades, numerous interesting works on the giant squid have appeared, attempting to reveal the historical understanding of these animals. The most referenced of these are Richard Ellis's excellent popular-science books *Monsters of the Sea* (1995) and especially *The Search for the Giant Squid* (1999). After these books appeared, they quickly emerged beside Heuvelmans's book as important sources providing information about the history of the giant squid.[41] It was a remarkable shift because Ellis's books are significant works, providing an exhaustive overview of the biology of the giant squid as well as its history. Moreover, they criticize some of Heuvelmans' most extraordinary theories about the existence of immense squid.[42] Despite this, Ellis mainly reiterates information of historical sources or analyzes them briefly, incidentally contributing to the historical interpretations provided by previous works such as Heuvelmans'. Like Heuvelmans' work, Ellis's books create the impression that the giant squid has been understood as a mysterious and alien creature in the past and is the source of various sea monster stories.[43]

The most recent studies that discuss the historical understanding of the giant squid have been published by both natural scientists and scholars from the field of cultural studies.[44] For instance, natural scientists Rodrigo B. Salvador and Barbara

M. Tomotani have written the article "The Kraken: when myth encounters science" (2014). In this paper, they compress the natural history of the giant squid into a brief scientific article, in which they, by referring to Heuvelmans and Ellis, explain that people have understood these squid as sea monsters for over 2000 years.[45]

In the field of cultural studies, scholars such as Natascha Adamowsky, Genie Babb, Florent Barrère, and Helen Tiffin have all brought out in an exemplary manner how historical sources such as works of natural history, famous novels, and art have represented giant-sized squid.[46] Nevertheless, the historical interpretations of the previous studies also haunt these works. Thus, the knowledge that these authors provide about past understanding of enormous squid tends to reinforce the interpretations introduced in Heuvelmans' and Ellis' works.[47]

The same phenomenon is also noticeable in the books by Sy Montgomery and Peter Godfrey-Smith, published within the past few years. These excellent works have revolutionized the former cephalopod studies with their fresh approach, focusing on the minds of octopuses and thus exploring their intelligence and emotions.[48] Nevertheless, only Montgomery discusses the historical understanding of octopuses, which he also does by using only Ellis' book as a source.[49]

The remarkable exception among earlier studies analyzing historical sources for enormous squid is *La Pieuvre* (1973) by the French sociologist Roger Caillois. In his book, Caillois examines historical sources describing giant-sized squid and compares them with those representing octopuses. He concludes that giant-sized squid may be dangerous, but they cause neither fascination nor hyperbolic fright as the octopus does. Caillois' psychological work is interesting as, contrary to other contemporary studies, it disputes the frightfulness of enormous squid. Although Caillois' interpretation is extraordinary and it challenges the dominant way of understanding the historical relationship between giant-sized squid and humans, his conclusion rests upon speculation after scrutinizing a few selected sources from antiquity to the 1970s.[50] It is also significant that Caillois' surprising conclusion has not influenced later writing about the history of the giant squid.[51]

Altogether, there have appeared numerous excellent works about the giant squid from the twentieth century to recent years. However, these studies and popular-science books have lacked a comprehensive approach to analyzing the historical understanding of giant-sized squid, and that is what is provided in this book. As cultural historian Joanna Bourke states, "In every period of history and every culture, commonsensical construction of 'the human' and 'the animal' exists, but the distinction is constantly undermined and re-constructed."[52] Enormous squid definitely have existed on the Earth since very ancient times,[53] but the present understanding of these animals is not ancient.

Exploring the historical understanding of the enormous squid

Numerous sources from the mid-eighteenth century to the end of the nineteenth century have been scrutinized for this book. These consist mainly of textual and illustrated materials that were produced concerning sizeable cephalopods, both actually encountered and imagined. I have also looked at some of the earlier writings from Antiquity and the Early Modern period that provided models for some of the contemporary sources. Of course, these earlier writings are examined from the perspective of the texts published during the period covered by this book.

While collecting primary sources for this book, one of the central aims has been to reach the enormous squid itself. The dominant understanding among historians and other scholars at the turn of the millennium was still that animals have no voice and they leave no textual traces. Thus, some scholars have argued that one can never reach the animal itself, only its depiction.[54] Today, the handling of animals as historical subjects seems to be generally accepted among scholars specializing in human-animal studies, although it will undoubtedly continue to generate vibrant discussion among historians for years to come.[55] To reach the giant-sized squid itself, I have examined various sources such as newspaper articles and whaling records, which reveal, in addition to human perceptions, the agency of squid. As the historians Georgina M. Montgomery and Linda Kalof state, to write about animals as historical subjects, one has to acquaint oneself with a variety of sources.[56]

It is important that the sources in which giant-sized squid are present also include humans encountering the animal. Hence, I have used the sources that reveal the agency of giant-sized squid to interpret simultaneously how people who encountered these animals perceived them. Those who encountered enormous squid were most often whalers and fishermen. Of these two groups, fishermen have left very few textual records. However, as the studies by social historians such as E. P. Thompson and Eric Hobsbawm indicate, the voices of such socially marginal people as laborers can be traced from sources.[57] That is, the approach of *history from below* has a significant role in this book, not only regarding the seafarers but also the animals. As historians Jason Hribal and Sandra Swart have emphasized, nonhuman animals, like human “marginal” groups, have an agency.[58] They are subjects that have their impact on history.

Consequently, I have tracked documents written by or about whalers, fishermen, and other seafarers, including descriptions of encounters with giant-sized squid. Whaling logbooks, vital sources for the activities of the whaling ships involved in the colonial sperm whale fishery, are one example of such sources. Sperm whales usually feed on sizeable squid.[59] I have focused on colonial whaling logs because Nantucket whalers dominated sperm whaling from the eighteenth century to the early nineteenth century.[60] The method of writing logs was to make brief daily records of all matters regarded as significant. These notes also included sightings of animals.[61] Another method I have used to track whalers’ reminiscences about their encounters with sizeable squid is to explore writings by natural historians who interviewed whalers or had correspondence with them.[62] Lastly, I have scrutinized the books written by some whalers about their journeys aboard a whaling vessel.[63] All these sources give an extraordinary insight into the shared history of whalers and giant-sized squid.

The sources of fishermen have been very difficult to trace, as unlike whalers they did not write logbooks. However, the writings of local amateur-naturalists, as well as zoologists, include descriptions of fishermen’s encounters and perceptions of enormous squid, although it was the fishermen who usually made the actual discoveries of these animals. Many of the writings describing encounters between fishermen and squid included detailed narratives of the chain of events. I have read such narratives in zoologists' treatises, in their correspondence with the people reporting the sightings of enormous squid, and especially in newspapers.

I have read newspapers in various databases containing thousands of issues from the late eighteenth century to the late nineteenth century, published in the Northern Atlantic region, including the United States, Canada, the United Kingdom, France, and Scandinavia.[64] Newspapers and different periodicals have been valuable sources for my study, especially for the nineteenth-century shaping of the understanding of enormous squid. As J. Mussell and Suzanne Paylor state, newspaper sources are significant in reaching an understanding of nineteenth-century history in particular. These publications participated in contemporary culture, allowing textual and illustrated ideas to circulate locally and globally.[65]

I have explored the databases mentioned above by systematically searching for specific keywords. However, the identification of the right keywords in every language has been time-consuming. The problem is that the present terminology referring to enormous squid differs considerably from that used during the eighteenth and nineteenth centuries. For instance, writing "giant squid" in the search index provides only a few results as such a concept did not exist before the late nineteenth century. Another problem when utilizing the keyword search method is the inadequacy of search results. The method is not all-inclusive, as the Optical Character Recognition (OCR) technology,[66] conversion of images including writing into machine-encoded text, occasionally misidentifies words in the original document. Thus, it is possible that I have not found all writings concerning enormous cephalopods. However, this is not an obstacle to making broad interpretations from the sources, as the number I have used in this study is still vast.

The majority of documented sightings of enormous squid between 1760 and 1900 occurred off Newfoundland, so a particular geographical focus of attention is the sources located on this island.[67] I have examined numerous non-digitized newspapers published there, but also in nearby provinces such as Nova Scotia from the 1840s to the 1890s.[68] These newspapers include records of both known and previously undiscovered sightings of giant-sized squid. Furthermore, I have scrutinized documents about encounters with sizeable squid in some Newfoundland archives. These sources also contain several descriptions of encounters between enormous squid and humans. All these newspapers and archival sources have given me a new and fuller insight into both the agency of giant-sized squid and the ways in which people of the fishing communities perceived these animals (Figure I.4).

Along with whalers and fishermen, other seafarers as well as naturalists encountered enormous squid. Many such sources have been traceable because of the excellent source gathering of previous giant squid researchers. It is mainly the travel journals of naturalists, the treatises of popular-science and other scientific publications that include descriptions of these encounters. I have, however, discovered some of these encounters in the diaries of merchant and naval seamen. I have also read the logbook of *Alecton*, the French navy steamship whose crew had one of the famous encounters with enormous squid in the nineteenth century.[69] Works of

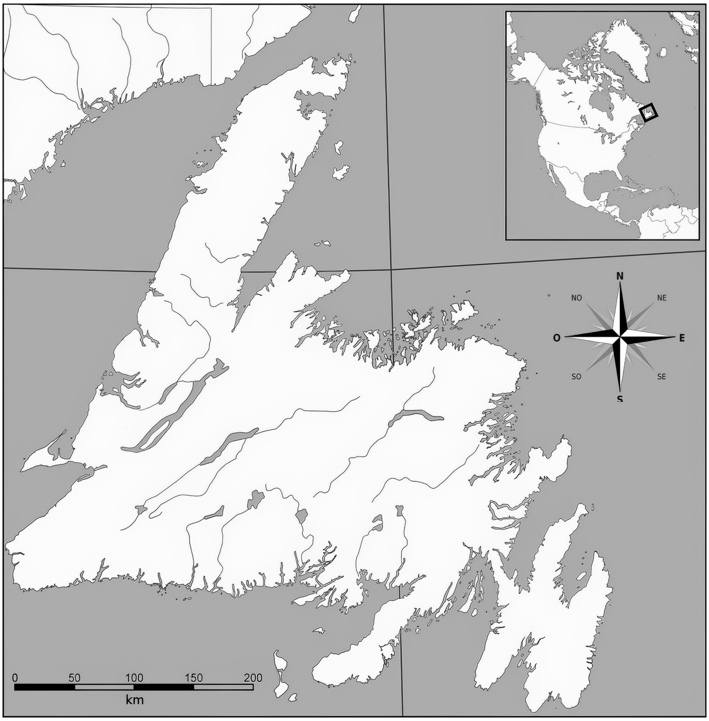


Figure I.4 Newfoundland is a large Canadian island off the east coast of the North American mainland.

Source: https://commons.wikimedia.org/wiki/File:Newfoundland_map_blank.png.

natural history and zoology, books popularizing contemporary science, encyclopedias, novels, and writings in various journals published in English, French, German, Italian, Dutch, Danish, and Latin from the mid-eighteenth century to the late nineteenth century are also included in the source materials.

Despite my comprehensive approach to the research subject, some generalization has been inevitable. I have been obliged to leave some sources that may have included mentions of giant-sized squid out of this study. It is never possible to include the full diversity of historical perceptions, and it is impossible to bring out all the locally and temporarily different ideas of enormous cephalopods around Europe and Northern America in one inquiry.[70] Thus, more detailed studies will be needed in future to fill any gaps there may be in this book.

To analyze the sources, I have used both qualitative methods and digital data analysis. The sources are read carefully to reveal connotations and denotations of certain words, for instance, those describing the agency of enormous cephalopods and how fishermen perceived these animals. As a computational method to analyze the primary sources, I have employed, for instance, the help of the Google Ngram, which is a corpus analysis tool that charts frequencies of words in the Google

Books text corpora. Furthermore, as my study includes a massive number of primary sources, I have classified the sources produced by people who encountered and imagined sizeable cephalopods into different groups on grounds of similarities regarding the understanding of these animals. It is an advantageous method because people with different social and occupational status understood these animals differently.

The way in which I have structured this book and organized discussion of the sources needs explanation. The study proceeds chronologically, being divided into three parts which each discuss almost a 50-year period. Division into these periods is justified as they each include a paradigmatically different understanding of enormous cephalopods. I have divided the chapters of the three parts into groups: those that discuss empirical knowledge and encounters with corporeal squid, and those that explore speculative and discursive cephalopods. Chapters 1, 3, and 5 explain how the people who encountered enormous squid floating on the surface of the sea, washed ashore, or vomited up by sperm whales, perceived them and how the agency of these animals manifested itself in these encounters. Chapters 2, 4, 6, and 7 examine how people described different hypothesized and imagined cephalopods and how these definitions impacted on the understanding of enormous squid. The structure of this study is not, however, implemented purely on the basis mentioned above, because there are no stark dichotomies regarding the ways in which people understood enormous cephalopods. Thus, Chapters 3 and 6 also explore how the empirical and discursive knowledge about enormous cephalopods were combined, and Chapters 4 and 7 analyze how zoologists observed material and giant-sized squid.

Notes

1 Zoologists classified numerous animals, including species of squid, during the late nineteenth century. Many of these animals are known today only by their zoological nomenclature, the binomial Latin name. For instance, several species of squid do not have common names. See, e.g. Duarte 2009, 2; Rozwadowski 2005, 135–73. See also Wright 2014. On the squid without common names, see Jereb & Roper 2010.

2 Marine biologists Jereb and Roper mention that most of the giant squid are in the range of 6 to 13 meters in total length and weigh up to 500 kilograms. Nonetheless, a newspaper article in the United States press in the 1890s mentioned that the full-grown giant squid weighs 10,000 pounds. Moreover, it has a body 50-feet long and two arms, each 100 feet in length. On this newspaper article, see, e.g. *The St. Louis Republic* 2.8.1890; *The Daily Inter Ocean* 17.8.1890; *The Kalamazoo Gazette* 21.9.1890; *The Sunday Oregonian* 31.7.1892; *The Plain Dealer* 23.10.1892; *The Knoxville Journal* 19.2.1895; *Patriot* 1.1.1897. For recent biological information about the giant squid, see Jereb & Roper 2010, 121.

3 See, e.g. Rathbun 1881; Lee 1883; Buel 1887, 68–86; Harvey 1899.

4 See, e.g. Packard 1872; Packard 1873; Murray 1874; Verrill 1874, 158; Verrill 1875a, 21; Verrill 1875b, 123; Verrill 1879, 177, 187.

5 See, e.g. Ley 1941; Heuvelmans 1974a [1958]; Heuvelmans 1974b [1958]; Ellis 1999, 4, 10; Muntz 1995, 3, 24–25; Ellis 2006 [1995], 122–23; Heuvelmans 2006 [1958]; Roper 2007, 121; Babb 2009, 24–25; Winkelmann et al. 2013, 2; Barrère 2014, 42–80; Salvador & Tomotani 2014; Tiffin 2014, 155; Adamowsky 2015, 89, 91; Montgomery 2015, 6.

6 See, e.g. Robson 1933, 681; Steinbach 1951; Aldrich 1969; Cohen 1970, 27–29; Heuvelmans 1974a [1958], 54–55, 220–51; Heuvelmans 1974b [1958], 279, 327, 366, 384, 417; Earle 1977, 16, 22; Muntz 1995, 6–11; Andriano 1999, 15; Ellis 1999, 2, 17, 60; Guerra et al. 2004, 2; Ellis 2006 [1995], 113–64; Heuvelmans 2006 [1958], 23–24, 115–31, 144, 176, 201, 211, 232; Martin 2009, 10–11; Emmer 2010; Hatcher & Battey 2011, 43–45; Williams 2011; Winkelmann et al. 2013, 2; Tiffin 2014, 152–53.

7 Numerous academic and non-academic works have stated quite explicitly that the narratives of the renowned sea monsters derive from terrifying tales told by seafarers. This assumption is especially common when defining the monstrousness of the giant squid. See, e.g. Heuvelmans 1974a [1958], 60; Heuvelmans 1974b [1958], 284–85, 295–98, 340, 342; Ellis 1999, 132–34, 153, 162; Heuvelmans 2006 [1958], 29; 147–48; 155–58; 183, 185; Roper 2007, 121; Harrison 2008, 4; Asma 2009, 1–2; Martin 2009, 10–11; Kaiser et al. 2011, vii; Rediker 2014, 20–21; Salvador & Tomotani 2014; Tiffin 2014, 15; Adamowsky 2015, 84, 89, 91; Aldersey-Williams 2017, 18–19.

8 Most of the previous studies primarily refer to writings by eighteenth- and nineteenth-century zoologists and renowned novelists such as Jules Verne, concluding that people have always understood these squid as frightening monsters. See, e.g. Heuvelmans 1974a [1958]; Heuvelmans 1974b [1958]; Muntz 1995; Ellis 1999; Ellis 2006 [1995]; Heuvelmans 2006 [1958]; Roper 2007; Babb 2009; Winkelmann et al. 2013, 2; Tiffin 2014; Barrère 2014; Tiffin 2014; Adamowsky 2015, 84–92.

9 Swart 2010, 5.

10 Nance 2015, 5–6.

11 The bodies of various squid contain a solution of ammonium chloride, which is a substance lighter than water. Thus, they will ascend to surface after they stop swimming. See, e.g. Clarke et al. 1979; Clarke et al. 1993; Kubodera & Mori 2005; Rosa et al. 2005; Winkelmann et al. 2009. See also Ellis 1999, 110; Adamowsky 2015, 88.

12 The most repeated explanation for *monster* is related to its etymology. Thus, various treatises about monsters explain that the word *monster* derives from the Latin *monstrum*, related to the verbs *monstrare* (show or reveal) and *monere* (warn). Monsters have also varied throughout history. For instance, Lorraine Daston and Kathleen Park explain that the monstrous births and the monstrous races of men, believed to inhabit the far reaches of the known world, were among the most discussed monsters in classical and medieval thought. They also appeared in the early modern discussion of monstrosities. See, e.g. Daston & Park 1981, 22–23; Daston & Park 1991, 173–214; Beal 2002, 6–7; Asma 2009, 13; Henderson 2015, 74.

13 "monster, n., adv., and adj.". OED Online. December 2018. Oxford University Press. http://www.oed.com/view/Entry/121738 (accessed December 17, 2018).

14 See, e.g. Hagner 1999; Foucault 2002 [1966], 143; Daston & Park 1998, 329–63; Daston & Galison 2002, 68.

15 As Foucault states, the taxonomical cataloguing of animals, based on their reciprocal connection, replaced the Renaissance way of understanding animals as separate spectacles. Thus, as the sightings of enormous squid before the 1760s occurred as part of a different paradigm, I have decided to begin my study in the 1760s. See Foucault 2002 [1966], 139–44. See also Daston & Park 1998, 329–63.

16 See, e.g. Jónsson 1774 [1639], 238; Pontoppidan 1753, 344; Ólafsson & Pálsson 1772, 716–18; Steenstrup 1849; More 1875a; More 1875b; Steenstrup 1898, 425–28, 433–40. See also Steenstrup 1962, 9–13, 272–76, 280–89; Heuvelmans 1974b [1958], 265–79; Heuvelmans 2006 [1958], 135–44.

17 In Japanese culture, still during the early nineteenth century, people understood cephalopods such as octopuses as vital and pleasure-loving creatures, which were depicted in erotic scenes or as anthropomorphized to half-octopus half-man, doing everyday duties of contemporary humans. In the Tongan language, the octopus is used to symbolize valuable and precious things. These ways of describing octopus significantly differed

from the transatlantic tradition about these animals. See, e.g. Caillois 1973, 129–50; Māhina 2004, 158; Schweid 2013, 126–29; Tiffin 2014, 162–64.

18 There are plenty of biologically classified remarkable-sized squid known today. Marine biologists P. Jereb and C. F. E. Roper state that mantle length among the family of the *Onychoteuthis*, known also as "the hooked squid," may vary from 15 cm to over 2 meters. For instance, "the robust clubhook squid," also known as *Onykia robusta*, reach a mantle length of 2 meters. The *Galiteuthis phyllura*, also known as "cockatoo squid," is estimated to have a mantle length of 2.6–2.7 meters. In the family of *Ommastrephidae*, also known as "flying squid," the largest known squid is the *Dosidicus gigas*, better known as "Humboldt squid," or "Jumbo flying squid". It can attain, according to biologists, a mantle length of 1.5 meters. In the family of *Octopoteuthidae* there also is a moderately giant-sized species of squid called *Taningia danae*, better known as "Dana Octopus squid." Biologists state that their mantle may grow to almost 1.7 meters. Biologists regarded the giant squid as the largest squid for a long time, until a whole species of colossal squid, or *Mesonychoteuthis hamiltoni*, was discovered during the last decade. It belongs to the family of *Cranchiidae*, in which there are other squid attaining a mantle length over 2 meters; for instance, *Megalocranchia maxima* with mantle length of 1.8 meters. Naturally, many of these squid are more sizeable, as one takes into consideration that they also have arms and tentacles. Thus, for instance, the maximum size for the Humboldt squid, with arms and tentacles, can be 4 meters. See, e.g. Kubodera et al. 2007; Jereb & Roper 2010, 6, 121–23, 148, 165–66, 171–73, 265–66, 301–04, 365; Rosa & Seibel 2010.

19 See, e.g. Ley 1941; Caillois 1973; Heuvelmans 1974a [1958]; Heuvelemans 1974b [1958]; Earle 1977; Muntz 1995; Ellis 1999; Ellis 2006 [1995]; Babb 2009; Heuvelmans 2006 [1958]; Babb 2009; Barrère 2014; Salvador & Tomotani 2014; Tiffin 2014; Adamowsky 2015.

20 *Squid* was a term used already at the beginning of the seventeenth century. It is mentioned, for instance, in Samuel Purchas's *Purchas his pilgrimage; or, Relations of the world and the religions obserued in all ages and places discouered* (1613) and in John Mason's *A briefe discourse of the New-found-land* (1620). However, according to my sources, sailors and especially whalers began to use the term only at the beginning of the eighteenth century. The etymological basis of the term "squid" is discussed especially in chapters 1, 3, and 8 of this book. The etymology of the word *squid* has also been studied by a few biologists. However, one should read them critically, as some of the terms have not been analyzed in their historical context. For instance, the word "kraken" is interpreted in some of these studies to be a Norwegian translation of the word "squid." As this study demonstrates, this interpretation is not correct. See, e.g. Summers 1990; Jereb & Roper 2010. See also Purchas 1613; Mason 1620. See also "squid, n.1". OED Online. June 2017. Oxford University Press. Accessed July 12, 2017. http://www.oed.com/view/Entry/188355.

21 As this study demonstrates, the *squid* was only one term meaning an animal that is known today as a squid before the late nineteenth century. For instance, squid were generally called *cuttle-fishes* or just *cuttles* in many written documents before that period.

22 The term cephalopod is formed of the Greek words *kephale* (head) and pous (foot). See, e.g. Ellis 1998, 32; Barrère 2014, 32–33.

23 The word *cephalopod* has maintained its position among zoologists during the twentieth century, and it is still used mainly in biological contexts. I especially discuss the etymology of this term in Chapters 2 and 4. See also Jereb & Roper 2010, 3; "cephalopoda, n.". OED Online. June 2017. Oxford University Press. Accessed July 12, 2017. http://www.oed.com/view/Entry/29800.

24 See, e.g. Jereb & Roper 2010, 121.

25 Roper & Shea 2013; Winkelmann et al. 2013.

26 To my knowledge, only one previous historical inquiry has focused on the subject. It is the master thesis *From Natural Philosophy to Natural Science: A Case-Study of the Giant Squid* (1977) by Alison J. Earle, submitted to the Memorial University of Newfoundland. Earle's work is a brief overview of the subject, focusing merely on the history of zoological research into the giant squid. In the present study, I will not only investigate how naturalists defined the species of giant squid more broadly than Earle, but I will offer an exploration of the concept of the giant squid that takes account of the wealth of work by groups other than zoologists. See Earle 1977.

27 There have appeared numerous scientific articles globally about the giant squid by marine biologists throughout the twentieth century and during recent decades. See, e.g. Clarke 1955; Aldrich 1967a; Aldrich 1968; Voss 1967; Aldrich & Aldrich 1968; Nigmatullin 1976; Pérez-Gándaras & Guerra 1978; Clarke et al. 1979; Roper & Boss 1982; Pérez-Gándaras & Guerra 1989; Aldrich 1991a; Clarke et al. 1993; Ré et al. 1996; Roeleveld 2002; Clarke 2003; Guerra et al. 2004; Bolstad & O'Shea 2004; Kubodera & Mori 2005; Jereb & Roper 2010; Guerra et al. 2011; Roper & Shea 2013; Winkelmann et al. 2013. See also Ellis 1999; Grann 2004.

28 In this study, I use the 1974 edition of Heuvelmans's book and the English translation *The Kraken and the Colossal Octopus: In the Wake of Sea-Monsters* (2006). The reason for using both the French and English editions of Heuvelmans's book is the weak translation in the English edition. See Heuvelmans 1974a [1958]; Heuvlemans 1974b [1958]; Heuvelmans 2006 [1958]. On Richard Ellis's book, see Ellis 1999.

29 See, e.g. Berger 2009b, 260–61; Emmer 2010; Williams 2011, 15; Hynes 2012, 1–27. There are several works that have cited only Ellis's books on the historical understanding of enormous squid. See, e.g. See, e.g Andriano 1999, 33–43, Mayor 2000, 230; Boyle & Rodhouse 2005, 196–97; Paxton & Holland 2005; Babb 2009; Guerra et al. 2011; Williams 2011; Grice 2012; Nilsson et al. 2012; Winkelmann et al. 2013; Frank 2014; Adamowsky 2015; Paxton 2016.

30 Heuvelmans 1974 [1958]; Heuvelmans 1974b, [1958]; Ellis 1999; Ellis 2006 [1995], 113–64; Heuvelmans 2006 [1958].

31 See, e.g. Ley 1941; Ley 1945; Ley 1956, 53–55; Sanderson 1956, 208; Heuvelmans 1974a [1958]; Heuvlemans 1974b [1958]; Heuvelmans 2006 [1958].

32 Bernand Heuvelmas was the first to use the term *cryptozoology* when he attempted to establish it as a new sub-discipline to the field of biology. Hence, he is known widely as the "Father of Cryptozoology." Rossi 2016; Hurn 2017. See also Barrère 2014, 18–19.

33 Weidensaul 2002, 151–86; Rossi 2016.

34 See Heuvelmans 1974a [1958]; Heuvelmans 1974b [1958]; Heuvelmans 2006 [1958].

35 Heuvelmans hypothesizes that there might be squid weighing tons and more than a hundred meters in length. He explains the existence of "calmars de super-géant," for instance, by making his own calculations on the basis of historical sources and by referring to the theories of his colleagues that the scars of almost half a meter carried by sperm whales are produced by squid. Heuvelmans 1974b [1958], 399–463; Heuvelmans 2006 [1958], 221–58. See also Barrère 2014, 33–34.

36 Heuvelmans explains already at the beginning of Chapter 2 of his *Dans le sillage des monstres marins* that "[t]here exists fabulous monsters whose existence is well established in fact, but from which the most striking proof will never remove the aura of legend. The horror which they inspire is so intense, their structure so weird from a human perspective, and their size so large that, in spite of scientific acceptance, they will forever remain stuck in the mire of the fantastic and the surreal." Heuvelmans 1974a [1958], 59; Heuvelmans 2006 [1958], 29.

37 Ley 1941; Ley 1945; Ley 1956, 53–55; Sanderson 1956, 208.

38 Heuvelmans' attempt to speculate about the existence of a yet-undiscovered and immense squid is continued today by cryptozoologists such as C. G. M. Paxton. He has published an article recently, discussing the maximum size of the giant squid, "Unleashing the Kraken: on the maximum length in giant squid (Architeuthis sp.)." In his paper,

Paxton speculates, with the assistance of historical sources, that the giant squid might be larger than estimated today. Paxton 2016.

39 See Clarke 1961; Cohen 1970, 28–30. See also Ellis 1999, 168–211. The marine biologist Fredrick Aldrich popularized the late nineteenth-century conversation of Newfoundland giant squid sightings in his biological and popular articles written in the 1960s. See Aldrich 1967a; Aldrich 1967b; Aldrich 1969.

40 For instance, the novelist Arthur C. Clarke emphasizes the mysteriousness and monstrousness of the giant squid in his non-fiction book *The Challenge of the Sea* (1960). See Clarke 1961, 114–28. Also, the citation in one of Aldrich's articles "I can only agree with Thomas Helm who, in his 1962 book *Monsters of the Deep*, observes 'those who continue to doubt that [the] sea contains monsters have not seen a giant squid'," reveals that the giant squid did not merely appear as the meaningless research object to Aldrich. Aldrich 1969.

41 See, e.g. Guerra et al. 2011; Adamowsky 2015. After the publication of Ellis's books, some of the studies, popular-science books and novels about the giant squid also began to rely solely on Ellis's writings about the history of the giant squid. See, e.g. Babb 2009; Roper & Shea 2013, 110; Frank 2014.

42 Ellis 1999, 106–07.

43 See, Ellis 2006 [1995], 113–64; Ellis 1999.

44 See, e.g. Paxton & Holland 2005; Babb 2009; Barrère 2014; Salvador & Tomotani 2014; Tiffin 2014; Adamowsky 2015.

45 Salvador & Tomotani 2014.

46 Babb 2009; Barrère 2014; Tiffin 2014; Adamowsky 2015, 83–92.

47 See Babb 2009; Barrère 2014; Adamowsky 2015.

48 Montgomery 2015; Godfrey-Smith 2016.

49 Montgomery 2015, 6–8.

50 Caillois 1973.

51 Various writings about cephalopods mention or cite Caillois' book, but few of them analyze the ways in which Caillois describes octopuses and squid. For instance, Natascha Adamowsky criticizes Caillois' interpretations of the cephalopods illustrated in Jules Verne's *Vingt mille lieues sous les mers* (1869–70). Caillois argued that these cephalopods represented octopuses, whereas Adamowsky argues that the drawings of cephalopods in Verne's book represent the giant squid. See, e.g. Adamowsky 2015, 87–88. On writings about cephalopods that mention or cite Caillois' work, see, e.g. Weiss 2002; Barrère 2014.

52 Bourke 2011, 4–5.

53 Various paleontological researchers have pointed out that enormous cephalopods have existed in primeval seas as well as during the historical era. See, e.g. Tanabe et al. 2014; Etter 2015.

54 Especially John Berger and Steve Baker have taken this approach, emphasizing that one can only access the depiction of an animal, in some of their works of human-animal studies. Baker 2001, xvi; Berger 2009a, 2. But see, e.g. Philo & Wilbert 2000; Swart 2010, 5; Peggs 2014, 40.

55 During recent years, several historians such as Susan Nance, Sandra Swart as well as Jason Hribal have emphasized that animals are more than just representations. They have shown that animals have a history of themselves, which is not only defined by humans but is also impacting the history of humankind. See Hribal 2007; Swart 2010; Nance 2013. Nance 2015. See also Jørgensen 2015; Pearson 2017; Räsänen 2017.

56 Montgomery & Kalof 2010.

57 See, e.g. Thompson 1963; Hobsbawm 2015 [1964]. *Fish into Wine. The Newfoundland Plantation in the Seventeenth Century* (2004) by Peter E. Pope, studying the way of life in seventeenth-century Newfoundland, also is an excellent example of the inquiry, utilizing the *history from below* approach. Pope 2004.

58 Hribal 2007; Swart 2010, 6–7.

59 The fact that sperm whales feed on squid appears in whaling logs. In addition, the position of huge squid as diet of sperm whales has been studied by several biologists. See, e.g. Clarke 1955; Gasking & Cawthorn 1967; Hansen & Cheah 1969; Kawakami 1980; Clarke et al.1993; Evans & Hindell 2004.

60 See, e.g. Bockstoce 1984; Dolin 2007. For this research, I have read 17 logbooks. These logs consist of four digitized logbooks belonging to the collections of the New Bedford Whaling Museum and 13 logbooks preserved by the Nantucket Historical Association. See ODHS logs 370; 485; 608A; 698: NHA MS, 220 - Ships' logs 9; 62; 75; 82; 85; 87; 28; 132; 106; 146; 205; 226; 345.

61 See, e.g. Clayton 2014, 41; Adler 2015.

62 See Schwediawer & Banks 1783; Denys de Montfort 1801–02; Mitchill 1815; Maury 1853.

63 See, e.g. Beale 1839; Bennett 1840a; Bennett 1840b; Cheever 1850.

64 At St. John's in Newfoundland, I had access to the Memorial University's databases, which included collections of Canadian as well as Irish newspapers. I have used the Gale Database, including collections of British newspapers such as the 17th- and 18th-century Burney Collection, the Times Digital Archive and the British Library Newspapers collection. To read the newspaper articles published in the United States, I have used the America's Historical Newspapers database containing 2247 newspapers published in every US state. To read the French newspapers, I have used the collections of the Gallica database in the Bibliothèque nationale de France. In addition to these, I have explored various other issues published in other languages, accessed from the collections digitized by Google. Unfortunately, I could not find descriptions of encounters between humans and enormous squid in Norway before the turn of the twentieth century. Although I made a word search in the digital newspaper database of The National Library of Norway with words such as *Kjempeblekkspruter*, *blekkspruter* and *kraken*. Only the term *kraken* resulted in hits, 175 altogether. However, none of these hits referred to an actual encounter with giant-sized squid. Nasjonalbiblioteket. Accessed July 12, 2017. https://www.nb.no/nbsok/.

65 Mussell & Paylor 2012, 23.

66 OCR is an abbreviation of the term "Optical character recognition."

67 The island of Newfoundland was a colony of Great Britain until 1949, when it joined in the Canadian confederation as the province of Newfoundland. Cadigan 2009, 235–39.

68 Publication of many of the newspapers discussing local news only began in these isles in the 1840s. See Ellison 1985.

69 For this study I read the copy of the logbook of *Alecton* sent to me from the archives of the France Marine Defense Historical Service in Toulon.

70 There may be numerous diaries of mariners, sailing logbooks, and other documents archived in municipal archives all-around Europe and North America, which might include mentions of sizeable squid and are not analyzed in this study. Obviously, it is impossible to examine them all in one study. On the difficulty of making an all-encompassing survey of any historical subject or period in a single study, see Salmi 2008, 3.

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Part I

The era of new ideas and far-reaching seafaring, 1763–1802

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1 The late eighteenth-century encounters with giant-sized squid

The late eighteenth century was a period of many changes in the American and European societies and cultures, and comprehensively around the world. Industrial Revolution began to take its first steps. American, French, and Haitian Revolutions challenged the monarchical and aristocratic structures, and the practices supporting the slave trade. A latecomer of the Age of Exploration, James Cook, managed to explore the Pacific Ocean and its numerous isles as well as discover Australia and the Antarctic. Because of him and other explorers of the late eighteenth century, the horizon of the New World expanded from south of the Equator and these lands began to be settled by Europeans. As a matter of fact, European colonization intensified all over the world. Thus, the late eighteenth century has also been characterized as a period when the Age of Imperialism began. For instance, the British colonization of the just discovered Australia began from 1788 onwards. However, as a result of the American Revolution, Britain lost many of its colonies in North America and the United States Declaration of Independence was signed in the 1770s.

In addition to these changes, the human relationship with the sea environment in the transatlantic culture began to change. Maritime historian Helen M. Rozwadowski aptly mentions how Robinson Crusoe, from Daniel Defoe's same-name book published in 1719, rarely ventured to the beach, but this changed after the 1750s when people's desire for the shore began to swell and spread. The sea started to have aesthetic meanings and bathing in the sea began to gain popularity among the upper class. It was also a period, when the first swimwear, or bathing costumes were developed.[1]

Nevertheless, the open sea was still in the late eighteenth century generally understood as a void, in which ships sailed from one port to another. For most people, it was a vast meaningless space that did not yet make an impression. However, this perception was slowly changing. Especially the whalers chasing sperm whales, living on the high seas, were one of the first people, for whom the deep sea was not a passageway but a destination. There, they had the best opportunity to witness many wonders of the ocean such as the life forms still unknown to science.

One of such animals was enormous squid. In the late eighteenth century, the whalers working in the early sperm whaling industry, who had to venture high seas to pursue their prey, mainly saw these sea animals. Other seafarers than whalers

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also occasionally witnessed sizeable squid as overseas merchant shipping and exploration occurred more frequently than before. They were also known animals for some ocean-going fishermen and inhabitants of the seashores, but for the wider transatlantic knowledge, they were unknown beings. This chapter explores how people who encountered giant-sized squid during the late eighteenth century defined these animals.

Whaling – the best way to encounter sizeable squid

Whalers working in the sperm whale fishery had the best opportunity to encounter giant-sized squid, albeit usually dead ones, in their daily work because these squid are the primary nourishment for sperm whales. As Richard Ellis has stated, "the most reliable descriptions of a living *Architeuthis* usually involve a sperm whale."[2] Marine biologists have been aware of this connection throughout the twentieth century and the present century.[3] Nevertheless, the whalers who hunted sperm whales already knew that these whales feed upon sizeable squid in the eighteenth century, probably earlier.

According to Eric Dolin, sperm whale hunting began during the eighteenth century, although there are some theories that such whales were chased already before the Common Era. Some references point out that the Phoenicians pursued sperm whales already in 1000 B.C.E. In addition, there are references indicating that sperm whaling was practiced in the North Atlantic in the seventeenth century. However, sperm whaling as a large-scale and year-round industry is generally regarded as having been started at the beginning of the eighteenth century.[4]

Whaling had, of course, flourished in the North Atlantic before organized sperm whaling. Early whaling during the medieval and early modern periods, dominated by the French, the Norwegians, the Icelanders, the Flemings, and most of all the Basques, was focused close the shoreline. For this reason, the whales pursued were usually coastal habitat or slow swimmers. The usual catch during these periods was the North Atlantic right whale, which was coastal habitat and lacked speed through water. In addition to this, the North Atlantic right whale continued to float long after being killed, which helped the process of getting the blubber out of the whale. Most of these whales did not feed upon sizeable squid. For example, the right whales, which were hunted a lot, were baleens, feeding entirely upon small prey through their baleen plates. Another such baleen, the Fin whale, feeds constantly on squid, but these squid are usually small. The only known whale known to feed upon sizeable squid and pursued in early times is the pilot whale. Contrary to baleens, the pilot whale is a carnivorous delphinid. It was hunted in the Faroe Islands as early as the sixteenth century, and in other parts of the Northern Atlantic, such as Cape Cod, during the eighteenth century. It is therefore possible that the people hunting pilot whales may have seen remains of giant-sized squid before the advent of sperm whaling. However, I have not found any historical document indicating that sizeable squid were discovered by whalers pursuing whales other than sperm whales.[5]

The sperm whaling industry expanded in the eighteenth century, when whalers realized that the profit gained from these whales was greater than from other whales. Sperm whales have blubber, which one could render into oil that burned clearer than that coming from other whales. The substance from the head of the sperm whale, called the spermaceti, was used for medical purposes, for instance as a remedy for asthma or discomfort; as a lotion, it was used to soften skin and cure breast tumors. Above all, spermaceti was valued as a substance for producing candles. The most mysterious and valuable ingredient obtained from the sperm whale, however, was the ambergris. People have used it as a substance for flavoring and aroma. These qualities have led to its use in food and beverages, incenses and (most of all) perfumes.[6]

As historians John Bockstoce and Eric Dolin emphasize, the few thousand inhabitants of Nantucket, a small island off the shore of New England, started and dominated the sperm whale fishery during the first part of the eighteenth century. They created the basis for the American colonial whale fishery, which soon extended to mainland ports such as New Bedford and other islands such as Martha's Vineyard. The growth of the sperm whale fishery was so efficient that in the 1760s, according to Dolin, these ports sent out annually an average of 360 whaleships, which were manned by 5000 men. Furthermore, whale hunting voyages that initially lasted from a few days to a couple of months extended after the mid-eighteenth century to full-year journeys. Bockstoce has explained the dominance of Nantucket whalers as founded on two basic innovations. The first was the development of tryworks, trypots in a brick furnace, which were used aboard the ship. Tryworks enabled men to cook the oil from the whale blubber at sea. The second innovation was the method of separating the fluid from the head of the sperm whale into oil and spermaceti.[7]

Because of all these innovations and skills to hunt sperm whales, the main food for sperm whales – sizeable squid – also became a familiar animal to colonial whalers. The reason is that sperm whales feed on giant-sized squid and are known to throw up the contents of their stomach during the harsh hunting procedure. Thus, whalers must have seen body parts and entire carcasses of squid in the vomit of whales from the time the pursuit of sperm whales began.[8]

One of the earliest mentions of squid in the context of colonial North Americans working in the sperm whale fishery is written by the Attorney-General of Providence, Paul Dudley, in 1726. He wrote that "The *Sperma Ceti* Whale, besides other fish, feeds much upon a small fish that has a Bill; our Fishermen calls the Squid Fish."[9] The quote clearly indicates that squid were not alien animals to New England whalers. The reason why he called the squid a fish is that during the eighteenth century and for many centuries earlier all animals living underwater were generally called *fish*.[10] What is remarkable is that Dudley did not represent the animal as a monstrous aberration, merely as a fish among other fishes.

The colonial whalers described all matters regarded as significant in their logbooks, including sightings of animals.[11] Nevertheless, the squid are not often mentioned in the logs written in the eighteenth century.[12] They contain numerous remarks about captured sperm whales and several sightings of other animals such as birds, whales other than sperm whales, turtles, flying fishes, and other varieties of fish, but not so much about squid.[13] Perhaps whalers included squid among sightings of fishes, given that contemporaries frequently called squid, like various other marine animals, *fish*.[14] However, considering that squid are sperm whales' primary food and that these whales empty their stomachs during the hunting procedure, it is difficult to believe that whalers did not see at least pieces of enormous squid.

Other contemporary sources indicate that men working in the sperm whale industry often witnessed squid; for instance, consider Captain Joshua Coffin's report of the sperm whale that he caught off the coast of Guinea at the turn of the 1790s: "The spermaceti whale feeds, as I believe, almost wholly upon a fish called Squids. I have often seen a whale, when dying, bring up a quantity of squid, sometimes whole, and sometimes pieces of it."[15]

Despite Coffin's report and other sources, almost all the animals mentioned in the eighteenth-century whaling logs are birds and whales.[16] The few others mentioned, including turtles and flying fishes, were mainly those that whalers regarded as exotic during the period.[17] Consequently, the sightings of squid were not regarded as sufficiently noteworthy to merit mention in the eighteenth-century logs. This ignoring of squid is remarkable, because the nineteenth-century whalers did occasionally mention these animals in their logs. It seems that late eighteenth-century whalers did not yet recognize the usefulness of squid (floating on the surface) in assisting them to find sperm whales, as they did in the nineteenth century.[18] In any case, it is evident that the contemporary whalers would have mentioned giant-sized squid in their whaling logs if they had understood these animals as something exceptional – especially as horrifying monsters.

Fortunately, some writings offer more insight into how whalers perceived giant-sized squid in the late eighteenth century. Naturalists such as Samuel L. Mitchill, Pierre Denys de Montfort, and François Xavier Swediaur, who studied whales and cephalopods in the late eighteenth and the early nineteenth centuries, produced these texts. Mitchill was an American naturalist, Denys de Montfort was a Frenchman, and Swediaur was an Austrian-born naturalist, who is better known for his treatise on syphilis.[19] They interviewed whalers or had correspondence with them to obtain information about marine animals.

Mitchill, for instance, had correspondence with whaling captains. In one of the letters, the Nantucket whaling Captain Johnathan Worth gave him information about the enormous squid washed ashore in Newfoundland in 1762.[20] Denys de Montfort and Swediaur interviewed sperm whalers in the later eighteenth century, when the center of sperm whaling temporarily moved to Europe after the American War of Independence of 1775–83. During this period, Britain's whale fishery dominated sperm whaling with the help of Nantucketers, who were appropriated to work on British whaling vessels during the war. As John Bockstoce has mentioned "from 1788 to the outbreak of the War of 1812, two-thirds of the vessels in the British fishery were commanded by Americans".[21] In addition, a few Nantucketers established a whaling colony in Dunkirk, in France, from 1786 to 1793, to avoid the duty that Britain had placed on imported whale oil.[22] The whalers that Swediaur and Denys de Montfort interviewed were working either in this colony or in the British whale fishery.

Swediaur collected reminiscences of whaling men for his scientific article "An Account of Ambergrise". He interviewed whalers from both colonial and British sperm whale fisheries. Apparently, to Swediaur's surprise, the giant-sized cephalopods emerged in the conversations.[23] Denys de Montfort questioned whaling men for his treatise *Histoire naturelle, générale et particulière des mollusques, animaux sans vertèbres et à sang blanc* (1801–02) during the last decades of the eighteenth century. According to Denys de Montfort, he interviewed only Nantucket whalers residing in Dunkirk. Denys de Montfort wrote that he approached the residents of the community and conducted interviews with two men who had encountered an enormous cephalopod, the whaler captain Ben Johnson and a whaleman called Reynolds.[24]

Some of the recent studies on the giant squid mention the interviews collected by Denys de Montfort and Swediaur.[25] They have used the interviews mainly to demonstrate that seafarers occasionally encountered the giant squid, but have not investigated their historical context or looked at them from the perspective of previous whaling knowledge. This lack of contextualization is unfortunate, because all these interviews provide excellent information on how whalemen perceived enormous squid.

These interviews reveal that whalers did not understand enormous squid as sea monsters. Rather, they were familiar with these animals and understood them as utilizable, even as edible. In Denys de Montfort's and Swediaur's interviews, whalers said that they had been amazed at the strange objects coming out of sperm whales' mouths until they recognized them as arms of the giant-sized cephalopods. In other words, they became comfortable with their sightings after they identified what had initially appeared to be unknown and frightening objects as pieces of enormous squid.

According to Denys de Montfort, Ben Johnson explained that he had once speared a whale, which had, in addition to a penis under its belly, another one coming out of its mouth. Johnson told Denys de Montfort that it had astonished the crew. They hauled the whale closer to the ship, passed a hook through the supposed penis and tore it from the mouth of the whale. Denys de Montfort wrote that when the crew saw the whole fleshy mass, they realized it was an arm of a sizeable cephalopod. Thus, after Ben Johnson and his crew recognized that the "additional penis" was just a body part of a squid, the mystery was solved and there was no further tension.[26] The arm of the enormous squid appeared to them as familiar, no longer a horrifying entity.

In Swediaur's interview there was a similar occurrence. According to Swediaur, the whaler, who had hooked a sperm whale, told him that it had a large and unfamiliar object in its mouth. On closer examination, the thing proved to be a long tentacle of a cephalopod.[27] Both Swediaur's interviewee and Ben Johnson's reminiscence show that when whalers identified initially unrecognizable objects in the mouths of sperm whales as arms of enormous squid, their mysteriousness vanished.

Denys de Montfort's interview of the whaler Reynolds tells a similar story to the previous reminiscences. However, in this case, the crew did not spot the piece of squid in the mouth of a sperm whale. Instead, Reynolds said that the crew on the harpoon boats noticed a long and red fleshy body floating on the sea. At first the crew thought this object a sea serpent. Denys de Montfort wrote that as the frightened sailors in the whaleboats saw it coming toward them, one of the sailors noticed that it had no head. All the whalers in the boats then realized that the body they had thought to be a reptile was not alive. Reassured, they hoisted the body onto the deck, where they noticed that the "sea serpent" was nothing but a truncated arm of an enormous cephalopod.[28] Reynolds's interview again indicates whalers' familiarity with squid body pieces. It seems that the revelation that apparently unidentified and wondrous entities were in fact squid pieces calmed the whalers.

In addition to the familiarity of squid to whalers, the interviews reveal that whalers were aware that squid body is utilizable. For instance, Captain Worth's letter to Mitchill, which says nothing of the squid itself except that its size was enormous, explains the habit of Newfoundland people to cut squid into pieces immediately before the flesh putrefied. As Worth mentions, "the flesh of the squid is very much prized as bait for codfish."[29] Worth's letter, therefore, implies that whalers were aware of the habit of fishermen communities to use squid as fish bait. Most likely such an understanding of squid gave more meanings to the animal and made it more familiar to whalers.

Another feature revealing that whalers did not perceive giant-sized squid as animals evoking terror and abhorrence, was their understanding of them as food.[30] Denys de Montfort mentions that some of Reynolds's crew ate a cut of the arm of the sizeable squid after they had identified the reputed sea serpent as such. Reynolds explained that having carved a slice of the squid, some of the crew prepared, according to Denys de Montfort's text, quite a good dish – in fact, it was reputedly so good that they regretted throwing the rest of the arm overboard.[31] Likewise, Swediaur justified the statement of the whaler who had witnessed the tentacle of squid emerging from the mouth of a sperm whale, by mentioning that "fishermen could not have been mistaken, as they themselves often feed upon the smaller sort of the same Sepia."[32]

Of course, one cannot be sure that Reynolds's mates ate the arm of the giant-sized squid, or that it was as tasty as they claimed. However, even a mention of eating an enormous squid indicates that these whalers did not perceive it as an abominable being that evoked terror. As anthropologist Mary Douglas says, abominable animals are not usually eaten in human cultures.[33] Overall, we can conclude that whalers working in the sperm whale industry did not perceive giant-sized squid as vicious monsters in the late eighteenth century. Far from it: they understood them, regardless of their size, as familiar but also as insignificant animals, which could be utilized as fish bait and food.

Perceptions of other seafarers

Whalers in the sperm whale fishery were not alone in encountering giant-sized squid during the late eighteenth century. Enormous squid does not merely ascend to the surface in the mouths or stomachs of sperm whales; occasionally, they arise from the depths by themselves when dying or already dead.[34] As they reach the surface, people sometimes spot these squid, dead or barely alive, floating on the sea or washed ashore. In the late eighteenth century, the ocean was already a highway to merchants between different continents and a waterway for explorers seeking yet undiscovered lands. Moreover, it had been a working place to fishermen for many centuries.[35] Hence, it is not surprising that, in addition to whalers, other seafarers also encountered enormous squid.

There are five well-described sightings of giant-sized squid recorded during the late eighteenth century. The reminiscences by the St. Malo marine captains, Nicholas-Pierre Duclos-Guyot and his brother Alexandre, the British naturalist Joseph Banks, the British entrepreneur and explorer George Cartwright, the grandfather of the Devon merchant Arthur Howe Holdsworth,[36] and the Governor of the northern part of Iceland, Stefán Þóarinsson, mention sightings of giant-sized squid. Only Banks, Cartwright, and Þóarinsson wrote the descriptions themselves, whereas the other narratives are second hand.[37]

All the reminiscences mentioned above indicate that seafarers other than whalers were also familiar with squid. One cannot, of course, assume that the squid was a well-known animal among all people traveling on the seas. For instance, the marine Thomas Aaron writes in his diary, when seeing a squid for the first time in the 1790s, that the animal "is the most curious I ever saw from its shape and colour and propertys."[38] In the eighteenth century, many sailors went to sea without any previous experience of the marine environment and the numerous animals living in the oceans.[39] On the other hand, for generations fishermen working in the North Atlantic, from the North Sea to the Grand Banks of Newfoundland, had acquainted themselves with various sea animals from starfish to sharks, and natural phenomena such as the underwater light produced by bioluminescent organisms.[40] Among such fishing communities, the squid was not an alien creature, but a familiar animal used as fish bait.[41] Although many seafarers were aware of the squid, there are no accounts of the encounters with the giant-sized squid from the late eighteenth century that suggest perception of them as sea monsters. Aaron Thomas, who encountered the squid for the first time, described it as peculiar but not monstrous, and declared it a gorgeous animal.[42]

All the above people were aware of squid, but the sources which tell us this indicate that their perceptions of them varied. The observers primarily understood these squid as a resource, but some of them also saw giant-sized squid as a curiosity. Above all, the relationship between sizeable squid and humans, however, rested upon the utility value of the animal's body. One use of sizeable squid was as food.[43] The reminiscences by Duclos-Guyots, Banks, and Cartwright all include mentions of eating squid, which implies that such an animal could not be perceived as an abomination, embodying terror and repulsion.[44]

Duclos-Guyots were renowned and esteemed sailors from St. Malo. For instance, Nicolas-Pierre had gone to sea at the age of 12. He worked first on a French India Company vessel and later in various privateers. Thus, he took part in numerous sea combats and later received a commission as a captain.[45] Their memories, written in 1763 and therefore the earliest of the encounters with giant-sized squid mentioned above, give an excellent example of eating them. Duclos-Guyots mention that they had encountered a squid weighing approximately 70 kilograms, which had tasted extremely good.[46] In modern biology, the squid mentioned by Duclos-Guyots would have weighed too little to be classified among the species of giant squid.[47] However, we should recall that there was no concept of a species of giant squid in the eighteenth century, nor was there any knowledge of the average size of sizable squid. Whether the individual weighing 70 kilograms was perceived as a moderate-size, or a gigantic squid, was dependent on the observer and his familiarity with such animals. Duclos-Guyots did not mention anything about the squid other than that it was sizeable and tasty.[48]

Another reference to eating sizeable squid was made by the esteemed naturalist Joseph Banks. He was a British naturalist, known especially for his participation in Captain James Cook's first voyage in 1768–71. In his later life, he was an honored member of various scientific communities.[49] The following record dated March 3, 1769, comes from his journal of Cook's expedition in the Pacific Ocean:

> I found also this day a large Sepia or cuttlefish lying in the water, just dead, but so pulled to pieces by the birds that its species could not be determined. Only this I know, that of it was made one of the best soups I ever ate. It was very large; and its arms, instead of being like European species, furnished with suckers, were armed with a double row of very sharp talons.[50]

This quotation is very interesting for many reasons. First, it expresses how a naturalist perceived sizeable squid in the 1760s, when natural history, dominated increasingly by Linnean taxonomy, has not yet given much attention to the study of cephalopods. Second, cephalopods were already represented as repulsive animals in a few eighteenth-century encyclopedias of natural history.[51]

Banks, unlike many contemporary naturalists, was familiar with cephalopods as both discursive and material entities,[52] presumably because of his participation in Cook's expedition. This type of expedition, with an accompanying naturalist responsible for scientific field work, only began during the eighteenth century.[53] Banks not only had the opportunity to observe actual sea animals in their habitat but also was there precisely for this purpose. Whatever Banks's perception of sizeable squid was, he wrote that he did not refuse to eat the one he had found. Either Banks did not regard the squid as an abominable animal, an idea already emerging in works of natural history in the mid-eighteenth century, or he simply ignored it to obtain a meal. Banks's description of squid included no discursive elements implying that he perceived the animal as horrifying or disgusting.

George Cartwright was a British entrepreneur and explorer, who made various voyages to Newfoundland in the late eighteenth century and wrote a diary containing many remarkable notions of the natural history and the native peoples of Newfoundland and Labrador.[54] His diary entry marking an encounter with a giant-sized squid found floating on the sea, two days before the ship reached Newfoundland on May 27, 1785, also mentions squid eating. Cartwright wrote that he had eaten smaller squid than the one they encountered: “I have eaten them, but the taste is not pleasant, being very sweet; perhaps plenty of pepper and salt might make them better, but I had none at the time.”[55] This quote shows that contemporary people traveling on the seas could understand the squid as a food animal and eat it if necessary, regardless of its size.

The eating of sizeable squid was not by any means the only way to utilize the flesh of the animal during the late eighteenth century. Another way was to perceive it as excellent fish bait. This tradition explains familiarity with the squid, especially among fishermen. That is because the squid has been used especially as a cod bait for a long time. For instance, in Newfoundland, a cultural tradition has developed around squid jigging with different kinds of customs and even an esteemed song “The Squid Jiggin’ Ground” written by the Newfoundland writer Arthur Reginald Scammel in 1928.[56]

As the Nantucket whaling Captain Johnathan Worth’s letter, discussed in the previous section, points out, fishermen in Newfoundland knew the value of enormous squid as fish bait before the 1760s.[57] Moreover, Cartwright mentions in his diary that “[Squid] are caught in great number in harbours in Newfoundland; and multitudes run on shore at high water, where they are left by the tide, especially if a fire be made on the beach. They are used in Newfoundland for baits to catch codfish, and are excellent for that purpose.”[58] This is a clear indication that Newfoundlanders and squid had a shared history going back beyond the late eighteenth century, perhaps long before.

The convention to use squid as fish bait was not, however, restricted to Newfoundland. The Danish naturalist and linguist Nicolai Mohr writes in his *Forsøg til en islandsk Naturhistorie* (1786) that people in the North had used squid as fish bait throughout the eighteenth century.[59] As the letter of governor Þóarinsson addressed to the Icelandic naturalist Sveinn Pálsson indicates,[60] the enormous squid were among those traditionally used as bait. In this report, he informed Pálsson about the giant-sized squid that had washed ashore in Northern Iceland in 1790. Þóarinsson’s wrote his letter in Möðruvallaklaustur (Möðruvalla Monastery).

> In November or December last winter a creature drifted ashore in Arnarnæsvik here in the parish which people called *Kolkrabbe*, as according to them it completely resembled the animal called by the name in all features except the *unusual size, since the longest tentacula were more than 3 fathoms* [ca. 5.60 m] *long; but the body right from the head 3½ fathoms* [about 6.60 m] *long and so thick that a full grown man could hardly embrace it with his arms.* It was intact when it was found, but I heard nothing about it until the whole animal was spoiled, cut to pieces, and as usual cured as bait for the cod, for which purpose the fishermen consider it excellent. The man who had had most to do with this creature only remembered that the long tentacula were four in number and all of them ten, just the number ascribed to that species of Sepia. According to Olafsen and Povelsen I think that there should only be two long tentacula.[61]

Recent biological studies mention that there were two sightings of the giant squid in Denmark in 1770 and 1798, but there is only one documented encounter with giant-sized squid in 1790, the one mentioned in the quote. In addition, the encounter occurred in Iceland, not Denmark.[62] As the citation reveals, fishermen did not hesitate to cut enormous squid into pieces. They perceived it neither as a scientific object nor as an offensive animal that evoked fear and disgust, but rather as a means for them to survive and earn a living. The bigger the squid, the more bait it provided and the more cod could be caught with it to be eaten and sold: in other words, it had a much higher utility value than common squid.

Nevertheless, the use of enormous squid as fish bait was not limited to Newfoundland and Scandinavia. The custom of picking up small or gigantic squid from the sea and cutting them up for bait was also prevalent among British merchants sailing the Northern Atlantic Ocean. For instance, in one of Holdsworth's letters, he recalls having heard his grandfather say that when engaged in Newfoundland trade at the end of the eighteenth century, they witnessed a giant-sized squid on the surface. According to the letter, the squid was dead, and the crew of the ship examined it before cutting it into portions for later use.[63] Similarly, Cartwright and his crew hoisted the enormous squid they had discovered onto the deck, cut it up, and put it into a pork barrel, undoubtedly for use as fish bait.[64]

Several fishermen and seafarer communities thus perceived giant-sized squid primarily as excellent fish bait rather than as a terrible and disgusting creature from the depths. However, some of the reminiscences imply that people other than whalers and fishermen also perceived them as curiosities. Þóarinsson's account shows not only how Icelandic fishermen perceived enormous squid, but how he himself understood this animal. Unlike the local fishermen, his main interest was natural history. His description of squid is fascinating, as it epitomizes the difference in understanding enormous squid individuals according to the social background of the observer. Þóarinsson was an educated governor, not a fisherman.[65] For him, the giant-sized squid was a significant sight, because it was something that deviated from the "ordinary" squid. Þóarinsson probably informed Pálsson about the discovery precisely because it was a peculiarity. Nevertheless, however unusually large the squid may have been to him, he did not perceive the squid as a horrible monster.

The perception that enormous squid were unusual was not confined to Þóarinsson. Holdsworth's letter provides another fine example of giant-sized squid understood as a curiosity. Holdsworth wrote that a tentacle of the giant-sized squid his grandfather encountered was kept as a trophy. It was dried and brought back to England. According to the letter, the tentacle was sent to the coffee-room in Totnes, "where it hung round the walls for a long time."[66] This indicates that the giant-sized squid was sufficient of a curiosity to interest the frequenters of the coffee-room.

The coffee-room case parallels the contemporary interest in taxidermy, which emerged in the eighteenth century and was utilized to preserve tokens of exotic and astonishing creatures from distant lands so they could amaze people at home.[67] Holdswort's grandfather obviously saw the tentacle of the sizeable squid as a token of a wondrous creature. But this does not mean that the grandfather perceived the giant-sized squid as frightening and ugly. If he had seen the squid as a monster, he would not have used it as bait, but would have left it untouched or tried to transport it as a whole creature to the mainland. Most likely Holdswort's grandfather understood the squid as a curiosity because it was a sighting of an unusually large but nevertheless familiar animal.

The curiosity evoked by the size of the giant-sized squid also appears in Cartwright's diary entry. In connection with the description of enormous squid he had witnessed, he wrote: "[Squid that] come near the land, and are generally seen, seldom exceed six or eight inches; yet I am told, that they grow to a most enormous size; even to that of a large whale."[68] This reference to hearsay about the immense size of the squid does not mean that Cartwright understood it as a frightening creature: the quote emphasizes the size of enormous squid, and he wrote it not because he had seen any squid, but because he had seen an unusually large one. Moreover, this was the only mention of a squid as a curiosity in Cartwright's diary: otherwise, the descriptions of squid are practical.

The explanation for entrepreneurs' curiosity toward enormous squid was the same as for Þóarinsson's perception of these animals. The squid as an animal was familiar to Cartwright and Holdsworth's grandfather but was not part of their everyday life as it was for whalers and fishermen. Their knowledge of these animals was not purely practical, but, as in the case of Þóarinsson, it was influenced by the enthusiasm for natural history that was emerging during the late eighteenth century. As the next chapter demonstrates, the eighteenth-century natural historian's conception of enormous cephalopods had no relation whatever to their use as cod bait.

Thus seafarers, apart from the whaling culture, did not perceive giant-sized squid as frightening and disgusting creatures, but as a welcome sight because their bodies offered more utilizable material than the common squid. Whalers, seafarers, and fishermen also regarded both small and giant-sized squid as edible for humans, while enormous squid were valuable as fish bait. The only thing that was regarded as remarkable was the sheer size of giant-sized squid. Especially those seafarers that did not have everyday contact with squid also saw them as curiosities. But status as a curiosity does not imply monstrosity, as assumed by previous studies.

Notes

1 Byrde 1987; Rozwadowski 2005, 7–9.

2 Ellis 1999, 5.

3 There are plenty of scientific articles published during the twentieth and twenty-first centuries, in which biologists have demonstrated that sperm whales are main predators pursuing giant-sized squid., Marine biologist Clyde Roper has tried to use sperm whales as his assistants to capture a video of the living giant squid by attaching critter cams on the whales. See, e.g. Hansen & Cheah 1969; Clarke et al 1993; Clarke 2003; Evans & Hindell 2004.

4 Dolin 2007, 72–74.

5 See, e.g. Perry et al. 1999, 19–20; Shoemaker 2005; Ward-Geiger et al. 2005, 264; Dolin 2007, 23, 99; Aguilar Soto et al. 2008, 936, 945; Szabo 2008, 94–110; Joensen 2009, 64–65; Brito 2011; Bolster 2012, 69–70.

6 Bockstoce 1984, 529; Dolin 2007, 85–86, 109–118.

7 Bockstoce 1984, 528–29. Dolin 2007, 72–74, 119, 139–40.

8 See, e.g. Schwediawer & Banks 1783, 231, 236; Letter from Mr. Alexander Champion 1791, 284; Bennett 1840, 175–76; Packard 1873. See also Clarke 1955; Gasking & Cawthorn 1967; Clarke et al. 1993; Evans & Hindell 2004.

9 Dudley 1724, 262. About Paul Dudley see Maier 1985, 17.

10 As historians Ritvo and Burnett have shown, the convention to name all animals living underwater *fish* continued into the early nineteenth century. Ritvo 1997, 47–50; Burnett 2007.

11 See, e.g. Clayton 2014, 41; Adler 2015.

12 To investigate how whaling men perceived giant-sized squid and how these squid themselves influenced the descriptions of them in the late eighteenth century; I have perused sixteen whaling logbooks from the period between 1751 and 1798. These are the logs of the vessels *America*, *Ann*, *Amazon*, *Bedford*, *Canton*, *Diamond*, *Dolphin*, *Grampus*, *Grey Hound*, *Industry*, *London*, *Mary*, *Mary Mitchell*, *Sea Flower*, *Union*, sailing in 1751–98. NHA, MS 220 – Ships' logs, Log 9, Log 62, Log 82, log 85, log 87, log 128.

13 See NHA, MS 220 - Ships' logs, Log 9, Log 62, Log 82, log 85, log 87, log 128.

14 See Dudley 1724, 262. See also Ritvo 1997, 47–50; Burnett 2007.

15 Letter from Mr. Alexander Champion 1791, 284.

16 NHA, MS 220 – Ships' logs, Log 9, Log 62, Log 82, log 85, log 87, log 128.

17 Turtles and flying fishes were regarded as exotic animals in the transatlantic culture even before the eighteenth century. See, e.g. Robbins 2002, 20; Sell 2006, 75; Plumb 2015; Latva & Skurnik 2016, 20.

18 Some of the eighteenth-century sources indicate that already in the late eighteenth century some whalers knew how to spot the vicinity of sperm whales with the help of the dead squid floating on the sea. Some of the whalers, interviewed by Swediaur, explained that they were aware that sperm whales constantly feed on squid and that one can notice the presence of sperm whales by spotting squid pieces on the surface. However, whalers' awareness of the usefulness of dead squid in helping them to locate their prey does not appear in the eighteenth-century logbooks perused for this book. As I will explain in more depth in Chapter 3, the significance of squid carcasses and pieces as a sign of the vicinity of sperm whales emerged in the ships' logs written in the nineteenth century. NHA, MS 220 – Ships' logs, Log 9, Log 62, Log 82, log 85, log 87, log 128; Schwediawer & Banks 1783, 236.

19 Samuel L. Mitchill (1764–1831) was an American naturalist, see e.g. Burnett 2007, 44–61. Pierre Denys de Montfort (1764–1820/21) was a French naturalist. Denys de Montfort's original name was Pierre Denys-Montfort, but he is widely known by the name Pierre Denys de Montfort today, see, e.g. Forcade 1907; Vaillant 1911; Heuvelmans 1974 [1958], 292–318; Holthuis 1991; Heuvelmans 2006 [1958], 153–70. François Xavier Swediaur (1748–1824) was an Austrian-born naturalist, who is better known for his treatise on syphilis, see Lane 1934, 80.

20 Worth's reminiscence about the squid has not been mentioned in any previous studies of the giant squid. Mitchill 1815, 390.

21 Bockstoce 1984, 528–30; Dolin 2007, 102–04, 124–25, 156, 179; Clayton 2014, 1.

22 Nantucketers established the colony in Dunkirk after the War of Independence in 1786. It was not a big colony. According to Dolin, it comprised only nine families with 33 people in all. The establishment of the colony was a result of the duty that Britain had placed on imported whale oil. Due to this, some Nantucket whaling families saw the best option as to transfer their operations from America. The colony in Dunkirk was not the only Nantucket colony outside the United States. Nantucketers established another in Dartmouth, Nova Scotia in 1786. In 1792, after the British eased their restrictions on the activities of American whalers, the colony in Dartmouth moved to Milford Haven. However, the British government did not want the very efficient Dunkirk fleet in England. Eventually, it returned to America in 1793, and relocated to New Bedford in 1795. Bockstoce 1984, 529; Dolin 2007, 172, 178, 180–82.

23 Swediaur wrote that “one of the interviewees was an intelligent native of New England, who before the Independence war broke out was employed for several years in spermaceti-whale fishery from Boston.” The other interviewees were from Britain. Schwediawer & Banks 1783, 230.

24 Denys de Montfort 1801–02, 331–39.

25 See, e.g. Heuvelmans 1974 [1958], 295–98; Ellis 1999, 197; Ellis 1999, 179; Heuvelmans 2006 [1958], 155–57; Barrère 2014, 85.

26 Denys de Montfort 1801–02, 332–33.

27 Schwediawer & Banks 1783, 237.

28 Denys de Montfort 1801–02, 335–39.

29 Mitchill 1815, 390.

30 Biologists such as Kir Nesis and Clyde Roper emphasize that the species of the giant squid is not edible to humans because of the taste of ammonia. Nevertheless, the statements by these biologists does not mean that people in the past did not perceive enormous squid as food and taste it. See e.g. Ellis 2006 [1995], 130.

31 Denys de Montfort 1801–02, 338.

32 Schwediawer & Banks 1783, 236–37.

33 See Douglas 2002 [1966].

34 See, e.g. Rosa et al. 2005.

35 See, e.g. Rediker 1996; Rozwadowski 2005; Bolster 2012; Williams 2015.

36 I have not been able to identify the name of Holdsworth’s grandfather, so this is how I specify him.

37 The reminiscences of Duclos-Guyots appear in the travel account of Bougainville’s expedition to the Falkland Islands, *Journal historique d’un voyage fait aux îles Malouines en 1763 et 1764 pour les reconnoître et y former un établissement et de deux voyages au détroit de Magellan avec une relation sur les Patagons* (1769) by the French author, Benedictine and mystic, Antoine-Joseph Pernety. The reminiscence by the grandfather of the Devon merchant Arthur Howe Holdsworth was marked down as one of his grandson’s letters. The letter explaining the grandfather’s memories of the encounter with the giant-sized squid was published in the newspaper article by the British antiquarian Richard John King, who was a specialist in Devon history. The source used here refers to the news issued in *The Tamworth Herald*. *The Tamworth Herald* 23.8.1870. About King, see Courtney 1892, 152–53.

38 Thomas 1968 [1794–95], 182.

39 As the historian Marcus Rediker states, the eighteenth century was a period when merchant sailing and the shipping industry burgeoned and the maritime working class also began to grow as a result. Rediker 1996, 8.

40 Bolster 2012, 14–15.

41 As this section will demonstrate, the squid had been used as fish bait long before the eighteenth century. It is regarded as universal bait even today. See Burnley 2006.

42 Thomas 1968 [1794–95], 182.

43 According to current knowledge, some of the squid species that grow huge are edible and some are not. Various biologists state that giant squid are inedible because their bodies contain ammonium chloride. For instance, many of the leading marine biologists who specialize in research on the giant squid, such as Clyde Roper, Malcom Clarke, and Frederick Aldrich, have tasted it and experienced a strong and bitter taste of ammonia. A large amount of ammonium chloride is certainly dangerous for human health. Nevertheless, this does not mean that ammonium chloride is unpalatable. For instance, in Finland ammonium chloride is used to spice up candies called *salmiakki*. It seems that the understanding of the giant squid as an animal wholly unsuitable for human consumption is a matter of opinion, and one cannot exclude the possibility that some eighteenth-century sailors ate species of huge squid, including that known today as the giant squid. While this remains a matter of speculation, it is notable that in the written

sources these sailors understood sizeable squid as food rather than monsters. See Ellis 1999, 98–99, 110. See also Jereb & Roper 2010, 123; Anderson et al. 2013, 44–45; Adamowsky 2015, 88. About salmiakki, see Binelli 2018.

44 See Douglas 2002 [1966].

45 Dunmore 2005, 55.

46 In the French and English sources, the weight of the squid has been mentioned as 150 pounds (approximately 70 kilograms). Pernety 1769, 603; Pernety 1771, 253.

47 Biologists Clyde Roper and Patrizia Jereb emphasize that an individual of the family *Architeuthidae* may weigh up to 500kg, perhaps more. Roper & Jereb 2010, 121.

48 Pernety 1769, 603; Pernety 1771, 253.

49 See O'Brian 1997.

50 Banks 1896 [1768–71], 65.

51 See, e.g. Bomare 1764, 200.

52 For instance, Linnaeus's taxonomy, discussed in the next chapter, indicates that he was not as familiar with actual squid as Banks.

53 See, e.g. Heesen 2000; Hodacs 2011.

54 About Cartwright's biography, see Story 1983.

55 Cartwright 1792, 45.

56 See Ronayne 1955.

57 Mitchill 1815, 390.

58 Cartwright 1792, 45.

59 Mohr 1786, 121–22.

60 Stefán Þóarinsson (1754–1823) was the governor of the northern part of Iceland when the sighting of the giant-sized squid occurred. See Ogilvie 2008. About Pálsson, see Eyþórsson 1962; Ogilvie 2005.

61 The quote is from the English translation of Japetus Steenstrup's cephalopod papers, published in 1962. It is based on the record Steenstrup took from Sveinn Pálsson's diary, written in the 1790s, and added to his paper, presented in 1849. Steenstrup 1849, 953–54; Steenstrup 1962, 11.

62 Danish zoologist and professor Bent Jørgen Muus, who specialized in cephalopods, listed in his book *Skallus, Søtænder, Blæksprutter* (1959) all the giant squid sightings that occurred in Denmark before 1959. All the records (1545, 1639, 1770, 1853, 1855, 1949, and 1954) seem believable except one. He wrote that the giant squid specimen was discovered on the west coast of the Jutland, Denmark, in 1770. Muus did not give any detail of his source, but he did list the literature he used. After browsing through Muus's sources, I concluded that he had taken these years from Japetus Steenstrup's paper *Kolossale Blæksprutter fra det nordlige Atlanterhav* (1898). Steenstrup wrote that: "the cephalopods of this surprising size, or still larger, were washed ashore on our northern coasts in 1545 (or 1549), in 1639, 1798 and 1853." These are the same years as in Steenstrup's paper, except 1770, which was marked by Steenstrup as 1798. The most plausible explanation for this is that Muus has confused 1770 with 1798, but it seems that there is also a typing error or a spelling mistake in Steenstrup's paper. In one of his earlier papers *Meddelelse om tvende kiæmpestore Blæksprutter, opdrevne 1639 og 1790 ved Islands Kyst, og om nogle andre nordiske Dyr* (1846), Steenstrup mentioned that two giant squid sightings occurred in Iceland during the years 1639 and 1790. In his paper, Steenstrup analyzed these sightings through contemporary sources, which showed that there occurred a sighting of giant-sized squid in Iceland in 1790, not 1770 or 1798. Muus also made another mistake by locating these two sightings on the coast of Jutland as opposed to Iceland. Muus probably misinterpreted Steenstrup's sentence "washed ashore of our northern coast" to mean the northern coast of Denmark. Evidently Steenstrup considered the shores of Iceland Danish shores because in his day Iceland belonged to Denmark. Steenstrup 1849; Steenstrup 1898, 412; Steenstrup 1962 [1898], 259; Muus 1959, 170.

63 *The Tamworth Herald* 23.8.1870.
64 Cartwright 1792, 45.
65 See Ogilvie 2008.
66 *The Tamworth Herald* 23.8.1870.
67 See, e.g. Aloi 2012, 27; Poliquin 2012, 37, 57–62.
68 Cartwright 1792, 45.

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2 Narratives and enlightenment theories

The late eighteenth century saw new ways in how people perceived the world around them. The Enlightenment ideals and theories had spread across Europe and North America already since the seventeenth century, but they molded societies and cultures yet during the late eighteenth century. The Enlightenment influenced, for instance, politics, introducing democratic values, although many of the leaders of the Enlightenment era were absolute monarchs or "enlightened despots." American, French and Haitian Revolutions, of course, were also influenced by the Enlightenment ideas. However, before anything Enlightenment influenced philosophy and science. The religious orthodoxy was being questioned and various writers and thinkers began to emphasize the meaning of reason instead of faith and religious doctrines. Especially, science began to play a leading role in Enlightenment thought. Empiricism and rationalism became scientific virtues, but as this chapter demonstrates, following these ideals was not as simple as the contemporaries as well as people today might think.

From the perspective of the natural-historical understanding of animals, the late eighteenth century is an exciting period. First, methods of studying nature went through some major epistemic changes. As the historian of science Anita Guerrini mentions, the late eighteenth century was a period when natural history disengaged from natural philosophy. This meant that the previous symbolic meanings of animals began to vanish and were replaced with a history that grew progressively longer.[1] Arranging animals in catalogs and inventories according to biological species replaced the old renaissance method of presenting spectacles.[2] The new classification of nature, following the Linnaean taxonomy, emerged as the dominant way of defining animals.[3] Natural history also began to attract an increasingly broad audience and achieved a position of cultural authority by the end of the eighteenth century.[4] That is, natural history began to have an increasing social impact, and the knowledge that it provided about animals, cephalopods among them, increasingly began to influence how people understood these animals.

The reason behind the increasing influence was not, however, bound only to the attractiveness of natural history. The information flow grew tremendously in the late eighteenth century compared to the previous time. Technological developments allowed the production of books, newspapers, journals in larger quantities and at lower prices. At the same time, the demand for information increased. Thus,

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people had much better opportunities to familiarize themselves with the information provided about the creatures believed to denizen the yet unreachable depths of the ocean. This chapter examines how people who did not encounter squid physically defined giant-sized squid, and how the prerequisites for understanding these animals as vicious monsters were generated during the late eighteenth century.

Lore about enormous squid

During the late eighteenth century, the renowned naturalist François Swediaur published an article about the origins of ambergris, in which he discussed the existence of enormous cephalopods that whalers had mentioned to him. He concluded the section on these cephalopods by stating "When we consider the enormous bulk of dentaculum of the Sepia here spoken of, we shall cease to wonder at the common saying of the fishermen, that the cuttle-fish is the largest fish of the ocean."[5]

One cannot deny that there existed a belief in the eighteenth century that the squid is the largest animal in the seas – in addition to Swediaur's article, this belief is mentioned in other sources. For instance, the diaries of George Cartwright and the marine Aaron Thomas,[6] who served on *HMS Boston*, [7] refer to squid as the largest "fish" in the ocean. Cartwright mentioned that he had heard tales of squid that were larger than whales.[8] A similar idea of the squid emerges from Thomas's diary, written in the 1790s:

> [The squid] is said to be the largest fish in the Sea, but this is fabulous. I never met a person who ever saw one that weighed more then Four Pounds, but I have heard storys at St. John's of one being caught on the Grand Banks which Eight men could not haul into the Boat, and also of the horn of one being found cast ashore in Freshwater Bay which Two men with difficulty could carry.[9]

Thomas's quote reveals that he had heard about sightings of giant-sized squid while visiting the capital of Newfoundland, St. John's. There is nothing special about the stories of enormous squid caught in the waters around the island, as Newfoundland is one of the coastal regions where sightings of enormous squid, otherwise rare, were relatively common.[10] However, of interest here is the mention of the belief that "the squid is said to be the largest fish in the Sea." Together with Swediaur's citation above and Cartwright's diary entry, Thomas's texts indicate that this belief was not just local but circulated widely in contemporary culture.

The distribution and the origin of this belief are difficult to ascertain, as there is only a few documents mentioning it. However, unlike the previous studies about the giant squid, which have implied that the belief emerged straight from seafaring lore,[11] it was popularized and perhaps even invented by the French Benedictine monk, author and mystic, Antoine-Joseph Pernety.

Pernety was born in Roanne in Forez, the former province of France. At the age of 16, he entered the Benedictine Abbey of Saint-Allire in Clermont. While there, he took his wows in 1732, and in 1754 he moved in Paris, where he began to write his books. In the 1760s, his life changed when he had the opportunity to take part to Louis Antoine de Bougainville's expedition to Falkland Islands as a natural historian and priest. The expedition set out from France in 1763 with the frigate *L'Aigle* and the sloop *Le Sphinz*. The purpose of the expedition was to colonize the Falkland Islands. However, Bougainville and Pernety returned to France already in 1764. After this voyage Pernety's interest in subjects such as alchemy grew and he, for instance, became a member of the theosophical association *Illuminés d'Avignon*.[12]

The suggestion that Pernety invented the belief of the squid as "the largest fish in the Sea." derives from the oldest source mentioning this expression, Pernety's travel journal of Bougainville's expedition to the Falklands, *Journal historique d'un voyage fait aux îles Malouines en 1763 et 1764 pour les reconnoître et y former un établissement et de deux voyages au détroit de Magellan avec une relation sur les Patagons* (1769).

Historian Linn Holmberg writes that Bougainville thought Pernety ideally suited to join the Falklands expedition because he could fill the positions of both chaplain and naturalist. Pernety had earlier served as a monk and he was very interested in natural history and botany as well as other sciences.[13] The king of France permitted him to leave the monastery to take up his new reassignment.[14] During the voyage, Pernety wrote a passage about squid in his journal:

> According to the sailors visiting in the South Seas, the *cornet* is the largest fish in the seas. The *cornet* seizes its prey with the assistance of the movable claws at the end of its snout. These seamen also say that it fastens itself to the ship with the claws, and climbs along the rigging. If it does this at night without being noticed, its enormous weight can throw the ship so much upon its side that it is in danger of being capsized. Thus, a vigilant guard is kept, with hatchets and other sharp things to cut the claws of this fish as soon as it lays them on a ship.[15]

Pernety's narrative is unique, as it is the only published document in the eighteenth century that unquestionably describes enormous cephalopod as a squid. Other writers, both naturalists and non-naturalists, invariably defined giant-sized cephalopods as octopuses during this period. The animal mentioned in the quote is undoubtedly a squid. For one thing, the French word *cornet* is equivalent to the English word *squid*.[16] Second, Pernety's book contains a drawing of the *cornet* that resembles a squid (see Figure 2.1).

The quote itself represents the squid not only as the largest animal in the seas but as a creature able to sink ships. However, Pernety describes the action of the squid when it damages a ship as non-intentional agency. He explains that the weight of the squid can be such that it can capsize a ship. There is a significant difference between this narrative and the writings about enormous octopuses that began to appear at the turn of the nineteenth century, in which such agency was always intentional. There is no indication that Pernety intended to represent the squid as a vicious animal.

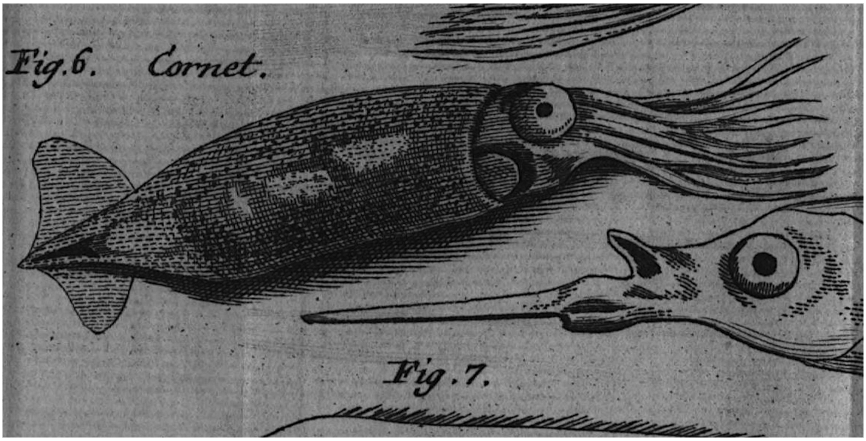
Fig.6. Cornet.
Fig.7.

Figure 2.1 The illustration of Cornet presented in Pernety's book.

Source: Pernety 1769, Pl. II. Courtesy of the John Carter Brown Library.

Whether Pernety's purpose was to describe enormous squid as malicious or not, his story is extraordinary in that it is the earliest such description among the sources scrutinized for this book. It is thus probable that Pernety was the first to publish an account of squid in which it is mentioned as the largest animal in the seas and capable of damaging ships. Strangely, although one might assume that modern studies of the giant squid would have discussed Pernety's account at length, it is mentioned in only a few of them.

Heuvelmans mentions Pernety's story but does not analyze it at all. For him, Pernety's description was one of the many historical sources to indicate the existence of squid even bigger than the species known today.[17] Author and biologist Michael Bright also mentions Pernety's squid in his book *There are Giants in the Sea* (1989), speculating that Pernety's quote derived from an encounter with a colossal squid whose existence biologists did not succeed in discovering before the twentieth century.[18] Bright's argument is that these squid are more sizeable than the giant squid and they also have hooks in their arms.[19] Both of these examples rest upon the theory that the animal mentioned in Pernety's narrative derives from a real sighting of sizeable squid. However, such a theory is simplistic and ignores what may be complex cultural origins of the story. Rather than adding to the speculation mentioned above, we should seek other explanations for Pernety's description of the squid.

Pernety's representation of enormous squid was most likely a mixture of sailor lore and his interpretation. After all, seafarers were aware that there existed both large and small squid in the sea. However, as the previous chapter indicated, there is no reference to enormous squid damaging a ship in seafarers' reminiscences. Unlike the belief that squid can grow to great dimensions, the idea that these animals could sink a ship was mentioned only in Pernety's description.

In his book, Pernety refers to Duclos-Guyots's reminiscence of the giant-sized squid they discovered and ate.[20] Both Nicholas-Pierre Duclos-Guyot and his brother Alexandre were among Bougainville expedition's crew, and the former commanded one of the expedition's two ships.[21] Pernety probably heard about the ability of squid to grow to an enormous size from the crew of the expedition, but Duclos-Guyot's reminiscence gives no clue as to why Pernety wrote about squid climbing onto ships and crew being compelled to keep guard with hatchets to prevent them from sinking their ships.

Consequently, if Pernety heard from sailors about the enormous squid capable of sinking ships, it is likely his description of squid referred the stories told by the mariners that participated on the expedition. These sailors were almost all from St. Malo in France,[22] which was one of the ports of contemporary France, famous for its seamen. As historian Henri Sée states, *The Compagnie de la mer du Sud* (South Sea Company) was established in St. Malo in the turn of the of the eighteenth century. The other companies, founded by wealthy ship owners, followed it. Hence, St. Malo became a center for the South Sea trade of fish and trade goods, which mean that numerous sailors lived in the city. Privateering and piracy, for which the city and its sailors were famous, was another activity that took St. Malo sailors to distant seas.[23]

It cannot be excluded that St Malo sailors believed sizeable squid could climb onto ships.[24] However, it is equally plausible that Pernety amalgamated descriptions of cephalopods mentioned in old treatises with his description of squid.[25] Roman author and naturalist, Pliny the Elder, for instance, writes in his *Naturalis Historia* (77 ce.) that squid occasionally dart above the surface in such vast numbers that they may sink the ship upon which they fall.[26] Perhaps Pernety thought that if one enormous squid should rise from the sea, it alone might capsize the ship on which it falls.

Pernety is known to have combined old beliefs and empirical observations in his travel journal. For instance, he claimed in his book that the Bougainville expedition met Patagonian giants, a mythical people believed to live in that region. Pernety was later criticized for this.[27] Despite Pernety's tendency to falsify it must be stated that the origins of the belief that enormous squid could sink ships is uncertain.[28]

It is interesting that the claim that the squid was the largest animal in the sea began to appear in other contexts after Pernety's book appeared in French in 1769 and in English in 1771.[29] According to the various book reviews and advertisements in contemporary British newspapers, Pernety's book was extensively read in England.[30] Curiosity and desire for knowledge of science and the far reaches of the Earth gripped the European imagination during the eighteenth century.[31] Importantly, interest in science and discovery was not restricted to the upper social classes during the century, but attracted a broader social spectrum.[32] Thus, Pernety's narrative of enormous squid was both accessible and interesting to a wide range of people.

As stated above, the British seaman Aaron Thomas and his fellow countryman, the entrepreneur Georg Cartwright, both mentioned the belief in their diaries, written in the 1780s and 1790s.[33] Both could have acquired it, either directly or indirectly, from Pernety's journal. Similarly, it is almost certain that Swediaur referred to Pernety's work, as it is difficult to imagine that he had not come across the book while studying the origins of the ambergris. The Chilean naturalist and Jesuit, Juan Ignacio Molina, also referred to Pernety's description of squid. He used it to describe a species of cephalopod living in the coastal waters of Chile, in his *Saggio sulla storia naturale del Chili* (1782).[34]

It is interesting that none of these writers mention Pernety's name when referring to his description of squid.[35] The reason for this was probably Pernety's poor reputation as a naturalist. As Antonello Gerbi states, various eighteenth-century scholars refuted Pernety's accounts of South American nature and its inhabitants.[36] Even the French naturalist Pierre Denys de Montfort, who speculated about the existence of colossal monster-octopuses at the turn of the nineteenth century, does not mention Pernety, although he undoubtedly refers to his description of squid.[37]

The only writer who referred explicitly to Pernety in the late eighteenth century was the French marine captain Étienne Marchand.[38] He, however, criticized Pernety's description of squid in his *Voyage autour du monde, pendant les années 1790, 1791 et 1792*, published posthumously in 1797–98.[39] Marchand states that none of the renowned sailors such as Drake, Dampier, Anson, Bougainville, Cook, Carteret, Wallis, Pérouse, or any other Englishmen, Frenchmen, Spaniards or Dutchmen mention an enormous squid like that Pernety describes in his journal. Therefore, Marchand argued, such a tale could not derive from sailor culture.[40] In my opinion, Marchand was definitely on the right track, as the evidence of the historical sources indicates that the belief about enormous squid able to sink a ship originated from Pernety's travel journal.

Seafaring knowledge about enormous squid surely inspired Pernety's narrative, but he also added some of his interpretations of the agency of such animals to embellish the story. Despite the popularity of Pernety's book, the belief that the squid is the largest animal in the seas did not become the dominant way to understand giant-sized cephalopods during the eighteenth century, because the credibility of Pernety's squid description was already undermined then. For this reason, Pernety's description of enormous squid did not have any great role in discussion of the enormous and vicious cephalopods after the turn of the nineteenth century.

What is remarkable is that the discourses that Pernety incorporated into his description of enormous squid continued, although his work was condemned in public discussion. The way in which Pernety represented the squid had a significant influence on naturalists' speculation about the existence of enormous octopuses. Pernety's name vanished and his squid was substituted by another animal, but the tale of huge undersea animals that could sink ships persisted. The squid's successor as ship-destroying monster was the octopus, which already had a rich cultural context with different meanings of monstrosity.

Late eighteenth-century natural history and giant-sized squid

Previous research concerning the giant squid has unambiguously expounded that natural historians understood them broadly as mythical monsters, whose existence it was their duty to discredit.[41] However, the situation was far more complicated, as contemporary naturalists did not perceive sizeable squid as fabulous entities. The only exception was Pernety in his description of enormous squid, [42] but we can safely say that contemporaries in the natural history field considered it a dubious account, not so much because of their size as he described it, but their agency, namely their ability to climb onto ships and capsize them.

The ability of squid to grow to sizeable dimensions undoubtedly was familiar to some naturalists by the late eighteenth century. Contemporary naturalists still read the renowned texts by esteemed ancient and early modern natural historians, such as Aristotle, Pliny the Elder, Pierre Belon, Guillaume Rondelet, Conrad Gesner, Ulisse Aldrovandi, or John Jonston.[43] All these authors included descriptions of both small and sizeable squid in their treatises.[44] Furthermore, sizeable squid were not absent from the scientific discussion in the eighteenth century. For instance, the Dutch collector and zoologist Albertus Seba mentions in his *Locupletissimi rerum naturalium thesauri accurata description*, published posthumously in 1758, a sizeable squid that was found near Brazil.[45]

From his occupation, Seba was a pharmacist and made a considerable fortune with his apothecary trade in his hometown Amsterdam. Seba was also a passionate enthusiast of natural history and he spent most of his money to different species that he bought from the port of Amsterdam, which had lot of ships coming in from all over the world. By doing this, Seba created a world-famous cabinet of natural curiosities in the early seventeenth century. An example of the fame of Seba's cabinets was that he sold the first of his collections in 1717 to Czar Peter the Great of Russia. Especially, the illustrations on Seba's *Locupletissimi rerum naturalium thesauri accurata description* had a remarkable influence on later zoology as Linnaeus and other authors based many of their new species upon figures shown in Seba's treatise.[46]

The squid mentioned in Seba's book was discovered near Brazil. It was not described as a scary sea monster. Instead, he only briefly states that it is a *Loliginis species maxima*, a squid species larger than others.[47] Altogether, there is no mention of monstrosity in the texts about squid by the ancient and early modern authors mentioned above.[48] Similarly, writings about the squid by late eighteenth-century natural historians do not include any allusion to the monstrosity of squid.[49] As stated above, Pernety was the exception.

The only aspect of squid that excited wonder in various scientific eighteenth-century encyclopedias was their ability to discharge ink.[50] The other, much rarely mentioned feature, was their appearance. For instance, the French naturalist Jacques-Christophe Valmont de Bomare wrote in his influential *Dictionnaire raisonné universel d'histoire naturelle* (1764) that "Sepias were ugly creatures."[51] The taxonomical term *Sepia* was a contemporary equivalent to the term cephalopod.[52] Thus, Valmont de Bomare meant that all cephalopods, including the squid, are ugly. So contemporary natural historians did not understand giant-sized squid as creatures evoking havoc and terror, but merely as ugly.

Why, then, when giant-sized squid were represented as vicious monsters in the late nineteenth century, were they not represented as such by eighteenth-century writers? The answer to the question is that it did not occur to the late eighteenth-century natural historians that squid were horrible and vicious sea monsters. Naturalists had been aware of the squid's existence for centuries and did not define them as such. Despite the contemporary understanding of these animals, the basis for the later conceptualization of monster squid began to form already in the eighteenth century. As de Bomare's encyclopedia indicates, the understanding of cephalopods as ugly animals disseminated from the natural-historical context to public discussion. It was already a prominent feature predicting the gradually increasing signification of squid.

However, a much more significant matter in the future understanding of giant-sized squid was the epistemic shift in natural history, in which biological categorization replaced the former traditions of categorizing animals according to assorted qualities such as type of soul, usefulness to humans (or uselessness in the case of *vermes*), habitat (land, air, water), symbolic value, edibleness, and so on.[53]

The approach to catalog nature led to various problems with defining giant-sized squid and squid in general. The problem mainly came out in the context of the eighteenth-century marine zoology, which began to attract contemporaries from the 1740s.[54] As the marine historian Helen M. Rozwadowski states, during the late eighteenth century, naturalists interested in marine life began to practice active fieldwork, dredging in shallow waters and beachcombing, collecting shells and marine animals that had drifted onto shores.[55] As a result of the contemporary enthusiasm for marine zoology, for instance, the number of observed fishes grew from hundreds to 10,000 or so during this era.[56]

The Italian and the Dutch naturalists Francesco Redi and Jan Swammerdam had observed the squid in the seventeenth century.[57] During the eighteenth century, their work was added to by John Tuberville Needham, who studied the anatomy of the squid analytically in the 1740s.[58] In addition, the English naturalist, Gustavus Brander, discovered and analyzed ancestors of the squid, fossil belemnites, for the first time in the 1750s.[59]

The squid was therefore a familiar animal to various eighteenth-century naturalists, but its position in the field of natural history, in which nature was classified and arranged according to taxonomy, was not as unambiguous as that of fishes. The Linnaean classification system, created by the Swedish naturalist Carl Linnaeus in the early eighteen century, was based on arranging species in different groups according to structural similarities.[60] As the structure of squid is different from that of the majority of known animals, there were undoubtedly great difficulties in finding similarities with them. Thus, the squid, previously classed alongside other marine animals in the early modern encyclopedias, was redefined within the highly hierarchical classification system so that the squid was positioned among the lowest ranked animals.

In the first widely recognized taxonomic classification system, Linnaeus' *Systema naturæ* (1735), squid and other cephalopods were at the bottom of the hierarchy, the last of the six categories – the Class of Vermes (worms). This likely occurred because the squid differed substantially from animals in other classes such as mammals, birds, amphibians, fishes, and insects.[61] The Class of Vermes was a "wastebasket taxon," meaning a taxonomical class including all the animals that did not fit in any other class (Table 2.1).[62]

Table 2.1 These two tables represent the way in which Linnaeus created his taxon of Vermes and the position of cephalopods in this class.

The Class of Vermes VI (1st edition of Linnaeus Systema naturæ *in 1735)*

Reptilia (included worms)	Testacea (shelled animals)	Zoophyta (animals resembling plants)
Gordius (horsehair worms) Taenia (tapeworms) Lumbricus (earthworms) Hirudo (leeches) Limax (slugs)	Cochlea (snails) Nautilus (nautiluses) Cypraea (shelled sea snails) Haliotis (shelled sea snails) Patella (shelled sea snails) Dentalium (shelled sea snails) Concha (shelled sea snails) Lepas (goose barnacle)	Tethys (shell-less marine slugs) Echinus (sea urchins) Asterias (sea stars) Medusa (jellyfishes) Sepia (octopuses, squid, and cuttlefish) Sepia, Loligo Microcosmus (mythical sea creature; known better as the Kraken after the late eighteenth century)

The Class of Vermes VI (10th edition of Linnaeus Systema naturæ in 1758)

Intestina (worms)	Mollusca (molluscs)	Testacea (shelled animals)	Lithophyta (corals)	Zoophyta (animals resembling plants)
Gordius (horsehair worms) Furia (non-existing worms) Lumbricus (earthworms) Ascaris (giant intestinal roundworms) Fasciola (liver flukes) Myxine (hagfishes) Teredo (shipworms)	Limax (slugs) Doris (shell-less sea slugs) Tethys (shell-less sea slugs) Nereis (sea worms) Aphrodita (sea mice) Lernaea (anchor worms) Priapus (sea worms and anemones) Scyllaea (sea slugs) Holothuria (Man o' Wars) Triton (triton snails) Sepia (octopuses, squid, and cuttlefish) Sepia octopodia, Sepia officinalis, Sepia media, Sepia loligo, Sepia sepiola Medusa (jellyfishes) Asterias (starfishes) Echinus (sea urchins)	33 different genus including nautiluses, shelled terrestrial and marine snails	Tubipora (organ pipe corals) Millepora (fire corals) Madrepora (stone corals)	Isis (soft corals) Gorgonia (sea fans) Alcyonium (soft corals) Tubularia (Tubularia) Eschara (Bryozoa) Corallina (coralline algae) Sertularia (Bryozoa) Hydra (small fresh-water animals) Pennatula (sea pens) Taenia (tapeworms) Volvox (green algae)

The text highlighted with gray shows the position of cephalopods in the class of *Vermes*. The mentions of *Loligo* and *Sepia Loligo* indicates the place of squid.
Source: Linnaeus, Carl. *Systema naturae* 1735; *Systema naturae* 1758, 641–21.

From the first edition of *Systema naturæ* to the ninth, the Linnaean system included only one species of either the squid (loligo) or the ambiguous term “sepia” under the order of *Sepia*. The order was positioned in the subclass of *Zoophyta*, meaning animals visually resembling plants.[63] It is difficult to know whether Linnaeus merely meant the cuttlefish by his term “sepia,” or whether he included the octopus too. The same vagueness in the definitions of cephalopods emerges in Linnaeus’s *Fauna Svecica* (1746), representing the Swedish animal kingdom. In this book, when he discusses squid and other cephalopods, he simply calls them *Sepia*. Linnaeus, who was above all a botanist, had probably no profound knowledge of cephalopods, as he could not demonstrate in detail which of the three known cephalopods, the octopus, the squid, and the cuttlefish, lived in the seas around contemporary Sweden.[64] The classification of animals thought to be zoophytes was problematic in the first place, as it was difficult to determine whether they belonged among plants or animals.[65]

It was not until the tenth edition of *Systema naturæ* (1758) that the order of *Sepia* was first relocated from *Zoophytes* to the new subclass called *Mollusca*.[66] *Sepia* was also divided into five species, of which the squid, octopus and cuttlefish were now more recognizable.[67] Nevertheless, despite amendments to the order of Sepia, it still included only one species of squid – *Sepia* loligo – although previous treatises written by various renowned naturalists had emphasized that there were several different kinds of squid in the seas.

Thus the Linnaean hierarchy, which became the foundation of the extensive knowledge of nature that developed during the late eighteenth century,[68] positioned the squid and other cephalopods in the group of animals that did not draw much attention from contemporary naturalists. The contemporary insignificance of molluscs is especially interesting from the perspective of current biological knowledge, because invertebrates such as molluscs comprise approximately 97 per cent of animal species.[69]

The Linnaean hierarchy created the basis for understanding cephalopods as belonging to the Class of Vermes, which lasted until the French naturalists Georges Cuvier and Jean-Baptiste Lamarck created another paradigmatic shift in classifying nature at the turn of the nineteenth century. They transformed the understanding of cephalopods and all other animals situated in the class of Vermes.[70] However, the understanding of squid and other cephalopods as insignificant animals was influential for most of the eighteenth century.

It is also important that the binomial nomenclature which Linnaeus created to classify cephalopods was nebulous and inadequate. The fundamental assumption of this system was that there existed only one species of squid, so that defining giant-sized squid as a unique species would have been extremely difficult in the late eighteenth century. Moreover, the vagueness of the term used for the order, *Sepia,* emerges when we take into account the simultaneous use of its name as a synonym for the species of cuttlefish, *sepia*.

Both previous research on cephalopods by ancient and early modern naturalists and studies by eighteenth-century naturalists such as that of Seba offered knowledge for Linnaeus to improve the order of *Sepia*, but it seems that he thought such expansion of the order unnecessary. During the late eighteenth century, some naturalists, however, began to criticize the use of *Vermes* as a sort of catch-all group for animals that others did not know how to classify and were therefore subsequently left unstudied.[71] The German naturalist Johann Gottlob Theaenus Schneider suggested in his *Sammlung vermischter Abhandlungen zur Aufklärung der Zoologie und der Handlungsgeschichte* (1784) that one should reorganize the order of cephalopods in the taxonomical system.[72] However, this reform did not occur before the early nineteenth century,[73] and the Linnaean system of classifying cephalopods defined naturalists' understanding of these animals as strange and insignificant beings that were difficult to place in the established system of natural history.

The *Reise igiennem Island* (1772), by the Icelandic naturalists Eggert Ólafsson and Bjarni Pálsson, excellently reveals how the Linnaean taxonomy impacted on the classification of giant-sized squid.[74] In their book, Ólafsson and Pálsson attempt to classify a wonder creature mentioned in Björn Jónsson's Icelandic Annals. The Annals described the creature as a being "with seven tails" thrown up on the coast at Þingeyrar in northern Iceland in 1639.[75] Ólafsson and Pálsson concluded that the wonder creature belonged without a doubt to the Class of Vermes and "it is evident that the animal was a very large Sepia; but of what kind of we cannot determine."[76] Apparently, Ólafsson and Pálsson could not say more about the giant-sized squid than that it belonged to the order of *Sepia*. Nevertheless, their account clearly indicates the important detail that the absence of giant-sized squid from taxa during the late eighteenth century was not a consequence of naturalists perceiving them to be a fabulous creature, as recent giant squid studies have argued.[77] In fact, it was the Linnaean taxonomy that created the major obstacle to systematic research into cephalopods.

The marginal position of squid in the taxonomical system and difficulties in classifying them dampened naturalists' enthusiasm to put any effort into cephalopod studies. As the sources state, the first extensive studies of molluscs were not published before the turn of the nineteenth century, while the first broad inquiries into squid did not appear until almost mid-century. Such studies could not occur before the Linnaean classification of cephalopods was revised at the turn of the nineteenth century, so the lack of detailed studies of giant-sized squid during the late eighteenth century is understandable.

It would be incorrect to put all blame for the lack of natural history knowledge of giant-sized squid in the late eighteenth century on the Linnaean hierarchy. Classifying and arrangement of nature required corporeal animals for empirical analysis, and there was no extensive collection of squid of the sort that would be necessary for the proper cataloging of squid species, small and enormous.[78] Obtaining this kind of assemblage in the eighteenth century was exceptionally difficult, as squid lives mainly in the open seas and the depths of the ocean.[79] Consequently, giant-sized squid themselves influenced the defective knowledge of them, as their agency was limited to areas unobservable by contemporary people. The only way to attain empirical information about enormous deep-sea squid was by analyzing individuals that surfaced after they were dead or dying. These squid were an uncommon sight to those working daily on the seas. Thus, the naturalists, mainly working on land, had very little chance of observing such an animal. Gustavus Brander articulates this problem in his "A Dissertation on the Belemnities" by stating that "the county of [belemnites] is unknown to us; […] [they] are well supposed to be the inhabitants of deep or unknown seas, beyond human reach."[80]

Brander's quote emphasizes the problem of the empirical study of deep-sea animals. However, although one of the virtues of natural history in the eighteenth century was the arrangement of fauna by its structural similarities, animals that were rarely observed, such as those in the deep sea, were still subject to speculation by numerous naturalists. When they had little empirical knowledge, these naturalists still used ancient and early modern natural-historical treatises or other historical manuscripts about animals, plants, and minerals. For instance, Linnaeus himself used this method to classify a mythological sea creature, supposed to live in the Norwegian Sea, in all his *Systema naturæ* before the tenth edition of the series.[81] He gave it the binomen *Microcosmus marinus* and wrote that "it is said to live in the Norwegian Sea. I have not, however, seen it myself."[82]

Thus, although works of history of science have emphasized the significance of the empirical approach in eighteenth-century natural history, when no specimen of an animal thought or suspected to exist could be found, it fell back on canonic texts and speculation while still applying scientific nomenclature, a sort of compromise between the early modern and the new approach.[83] For example, the renowned opponent of Linnaean classification, the French naturalist Georges-Louis Leclerc, Comte de Buffon, emphasized the importance of encyclopedic tradition, as it highlighted the life history and habits of species.[84]

The eighteenth-century naturalists could have used the speculative method to study the natural history of the squid, but they did not. The main reason for the absence of speculative squid research was the conventionality of ancient and early modern descriptions of this animal. Accounts of squid in the old treatises were narrower and less spectacular than portrayals of octopus, of which there were many marvelous and detailed stories.[85] This difference in the representation of squid and octopuses was also the main reason that contemporary natural historians primarily thought of octopuses as representing all enormous cephalopods. In addition, the Linnaean taxonomy, obscuring the distinction between different cephalopods by representing the order of *Sepia* as a uniform group of animals, made it more likely that one animal would come to epitomize the whole order; because of its fame acquired from earlier accounts, that one was the octopus.

The impact of Linnaean taxonomy can be seen in the ways Swediaur and Molina explained description of squid. Swediaur mentioned enormous squid as having some similarity to *Sepia octopoda*, which was a taxonomical equivalent to the octopus, and as a cuttlefish. Molina said Pernety's squid was a *Seppia tunicata*, [86] unequivocally attributing it to the order of *Sepia*. Both descriptions fail to distinguish the squid clearly from the octopus and the cuttlefish. The German naturalist, Johann Friedrich Gmelin,[87] who continued Linnaeus' work by updating *Systema naturæ*, added Molina's cephalopods, including *Seppia tunicata*, to the sixth volume of the massive thirteenth edition of the series.[88] Consequently, Pernety's squid ended up in the classification, but not defined as a squid, just as *Sepia*. This *Seppia* *tunicata* did not remain in taxonomy for long, as Cuvier and Lamarck revolutionized the class of vermes at the turn of the nineteenth century. They presumably rejected Molina's cephalopod species because it was so obscurely defined.

Altogether, giant-sized squid did not emerge as part of the new arrangement of nature in the eighteenth century. The reason was not the reputation of enormous squid as fabulous animals. Naturalists were undoubtedly aware of the existence of sizeable squid, as they had read about these animals in ancient and early modern treatises, but contemporary methods of research into animals did not encourage them to study squid. Squid were situated at the bottom of the newly created hierarchy of the animal kingdom and lived in places where they could not be obtained for study. Those naturalists who still enquired into nature with speculative methods were not interested in enormous squid because it was subordinate to the octopus in their most important sources of information, the ancient and early modern treatises on natural history. Thus, as will be shown clearly in the next section, it comes as no surprise that when enormous cephalopods emerged as an exciting subject among naturalists during the last decades of the eighteenth century, these animals were hypothesized to be octopuses.

Defining the modern concept of the enormous and vicious cephalopod

As one reads the literature and journals published during the late eighteenth century, one can see that different sea monster stories begin to emerge in public discussion. The sea serpent, mentioned in naturalists' treatises since Olaus Magnus' illustrations and account, suddenly becomes a part of the broader discussion. Similarly, the mythical Kraken, which was not widely discussed at all until the mid-eighteenth century, begins to appear on the pages of books, journals, and newspapers. Thus, during the late eighteenth century the cultural gaze of transatlantic culture moved slowly toward the mysterious seas and the numerous creatures hidden beneath its waves. As a corollary of this, inspired by the new enthusiasm for yet undiscovered and unclassified creatures of the seas, a few naturalists began to speculate about the existence of enormous cephalopods. These were not, however, giant-sized squid, but enormous and wicked octopuses.

Previous studies and writings about the giant squid emphasize that it, along with other sea monsters, menaced seafarers during the eighteenth century. The standard explanation for this, firmly entrenched in transatlantic culture, is that the Kraken is a giant squid.[89] However, this identification is wholly mistaken. As noted, giant-sized squid were largely absent from eighteenth-century discussion about cephalopods, but ironically, this was an extremely significant period in forming the later understanding of them. The reason is that the late eighteenth-century discourse about enormous and vicious octopuses played a significant part in defining giant-sized squid during the nineteenth century. It is therefore necessary to explore the tales of malicious and enormous cephalopods as manifested in octopuses and how the mythical Kraken became part of them, and why contemporary naturalists wanted to explain the existence of such animals in the first place.

Recognized natural historians hypothesized the existence of enormous octopuses during the late eighteenth century. They included the British naturalists Henry Baker and Thomas Pennant and the French naturalists Louis Augustin Guillaume Bosc and Pierre Denys de Montfort. All except Bosc clearly mentioned enormous octopuses, but he used the nebulous term *Sepia*, which implied octopus, squid or cuttlefish.[90] Although it is not certain which of the three Bosc referred to, it is reasonable to regard it as an octopus because of the historical and cultural context, in which people who read about Bosc's *sepia* were likely to understand enormous cephalopods as such.

Unlike Pernety, almost all the above writers were esteemed naturalists. The exception was Denys de Montfort, who, according to the sources, died as a poor alcoholic in 1820/21, at least partly because of his vivid hypothesis about immense and malevolent octopuses. Pierre Denys de Montfort wrote several influential works about molluscs, including the first editions of the book series *Histoire naturelle, générale et particuliere des Mollusques, animaux sans vertèbres et à sang blanc* (1801–02) and the two volume *Conchyliologie systématique, et classification méthodique de coquilles* (1808–10).

According to the introduction of the fourth volume of the *series Histoire naturelle, générale et particuliere des Mollusques*, the authorship of the series was attributed to the naturalist Félix de Roissy, because, according to the editor of the book series an unfortunate event had driven Denys de Montfort from his loved work and perhaps from his homeland. Biologist Lipke Holthuis writes that Denys de Montfort was possibly exiled, probably the main reason for the loss of his reputation. However, from the 1830s onwards Denys de Montfort also suffered posthumous ridicule for his writings about colossal octopuses.[91] In the end, Denys de Montfort wrote 156 pages on them, whereas Baker, Pennant, and Bosc wrote a few lines about such octopuses. Furthermore, Denys de Montfort even classified his immense octopuses into two species, *Poulpe Colossal* and *Poulpe Kraken*.[92]

Unlike Denys de Montfort, Henry Baker was a very famous and esteemed naturalist, who was a fellow of the Society of Antiquaries and received the Royal Society's Copley Medal for microscopic experiments in 1744. In addition, he was married to Sophia, the youngest daughter of Daniel Defoe, author of *Robinson Crusoe* (1719).[93] Thomas Pennant was also a very respected and influential naturalist, who wrote renowned works such as *British Zoology* (1776–77) and *The History of Quadrupeds* (1781) that were praised by critics.[94] In the same way, Louis Augustin Guillaume Bosc was a distinguished naturalist, who was also involved in politics. During the French Revolution, he first rose to a significant position but after a government reorganization in 1792 and The Reign of Terror that followed it, he became an outlaw living in the forest of Montmorency. After the Terror ended, Bosc went to the United States and made wide surveys there, which played an important role for the early American natural history. He arrived back in France in 1798 and wrote many esteemed treatises. Bosc was also elected as a member of Académie des sciences in 1806 and, in 1825, he was appointed as Professor of Horticulture at the Museum of Natural History in Paris.[95]

The connecting thread between all these writers' octopus theories was that they described the animals as capable of reaching an enormous size and threatening humans. According to Harriet Ritvo, the latter tendency made the octopus wicked.[96] The usual way that enormous octopuses supposedly spread havoc was by pulling ships and boats down into the depths. For instance, Pennant writes in his *British Zoology* (1777) that in hot climates one could encounter enormous octopuses that sink boats.[97]

In his *Histoire naturelle, générale et particuliere des Mollusques*, Denys de Montfort mentions various cases in which colossal octopuses attempted to sink a ship. He emphasizes that only the *Poulpe colossal*, which he describes as the embodiment of evil that spreads only terror and destruction, is prone to act like this. As an example, Denys de Montfort claims that these octopuses destroyed a fleet of British warships and merchantmen and captured French warships off the banks of Newfoundland in September 1782. [98] The fleet was indeed wrecked in that month, with the loss of thousands of lives, but not by colossal octopuses; the culprit was a hurricane.[99] In all probability this discourse of cephalopods sinking vessels derived largely from Pernety's description of squid. He was the first influential author to raise the discussion and many of his contemporary naturalists were plausibly familiar with his travel journal. However, whereas Pernety explains the cephalopod as a squid and gives no indication that he regarded the act of capsizing the ship as unintentional, Pennant and Denys de Montfort describe their octopuses as sinking ships and boats deliberately.[100]

Vicious and enormous octopuses were also presented as in the habit of seizing people and pulling them off a boat or ship's deck. For instance, Bosc says in his *Histoire naturelle des vers* (1801/02) that there exist *sepia* large enough to drag humans from boats or small ships with their tentacles and pull them down into the depths. Denys de Montfort relates several such stories. In one of these narratives, a colossal octopus drags two men under the sea. The crew manages to save one of these men, but he nearly suffocated, lost his sanity, and died during the following night.[101]

The discourse about octopuses taking people from vessels, together with the assumption that all cephalopods, especially octopuses, could reach a tremendous size, were already part of the ancient and early modern tradition of representing octopuses. Various natural history treatises published in the ancient and early modern eras imply that octopuses are the most immense as well as repulsive and murderous creatures among cephalopods. Pliny the Elder and several early modern authors such as Belon, Rondelet, Gesner, Aldrovandi, and Jonston, as well as the German Jesuit Athanasius Kircher, made the octopus synonymous with terror. Almost all suggest that octopuses are the cephalopods most likely to reach a tremendous size.[102] Most of the natural-historical treatises published in the early modern period repeat Pliny's descriptions of giant-sized octopuses stealing fishes from the residents of Carteia and explain that "there is no animal more savage in causing the death of a man in the water."[103] The early modern naturalists also invented new ways of describing octopuses. For example, Aldrovandi suggested that an octopus would beat a lion in a fight, and is well capable of killing a man, [104] and Kircher wrote about the vast octopuses habituating the depths of the Charybdis.[105]

The ancient and early modern narratives about octopuses undoubtedly inspired contemporary naturalists to speculate on the existence of enormous octopuses. Baker, for instance, directly referred to Pliny when he estimated the possible length and behavior of octopuses. He wrote that "The Sea Polypus must be terrible to the inhabitants of the waters, in proportion to its size (and Pliny mentions one whose arms were 30 feet in length)".[106] Denys de Montfort based his whole theory about the existence of enormous octopuses on the writings of ancient and early modern authors, explaining that these writers provided the most reliable and concrete knowledge about these animals.[107]

Nevertheless, the detail for narratives about enormous octopuses did not come only from ancient and early modern texts. Pernety influenced the contemporary naturalists, not only by depicting a ship-sinking cephalopod but by offering context for the naturalists' octopus narratives. It is likely that Pernety's mention of the enormous squid inhabiting the South Seas and the St. Malo sailors' encounters with them inspired Denys de Montfort to create narratives about his colossal octopus. It is notable that he situated most of the incidents involving colossal octopuses in the South Sea region, meaning the seas south of the equator. Pennant also placed his enormous octopuses in the southern seas, in this case the Indian Ocean. Both, Pennant and Denys de Montfort state that enormous octopuses were a perpetual threat to natives and their boats in these waters.[108] In this way, their discourses seem to mimic the medieval tradition of locating dangerous and monstrous animals in distant lands.[109]

In addition to locating most of the examples of colossal octopuses in the South Seas, Denys de Montfort included St Malo sailors in his stories. For instance, one of his narratives describes an attack of a colossal octopus on a ship with a St Malo crew in the South Seas. In this story, the sailors narrowly succeeded in preventing the octopus from climbing onto the ship with their hatchets.[110] This story is very reminiscent of Pernety's description of how sailors keep vigilant guard with sharp weapons to prevent squid from climbing onto their ships.

One of the reasons why the connection between Pernety's and Denys de Montfort's narratives has not been noted in modern works may be the absence of Pernety's name from Denys de Montfort's treatise and the other contemporary writings about enormous cephalopods. All the contemporary naturalists avoided referring to Pernety by name. Denys de Montfort also omits any reference to Pernety in the chapter of his book that discusses squid. He criticizes the claim that the *cornet* is the largest animal in the seas, which he had evidently read in Pernety's journal. Pernety's claim was inconsistent with Denys de Montfort's hypothesis, as well as that of many ancient and early modern writers, that only octopuses among cephalopods could achieve immense size, which explains why he dismisses it. Without referring to Pernety, Denys de Montfort explained that the vocabulary of French sailors is too vague, because they include all cephalopods under the term *cornet*. In other words, the word *cornet* could lead readers to an assumption that the enormous cephalopod was not an octopus, which in de Montfort's opinion would be ridiculous.[111] As Florent Barrère mentions, Denys de Montfort stubbornly closed his eyes to all the "evidence" that enormous cephalopods were squid, not octopuses.[112]

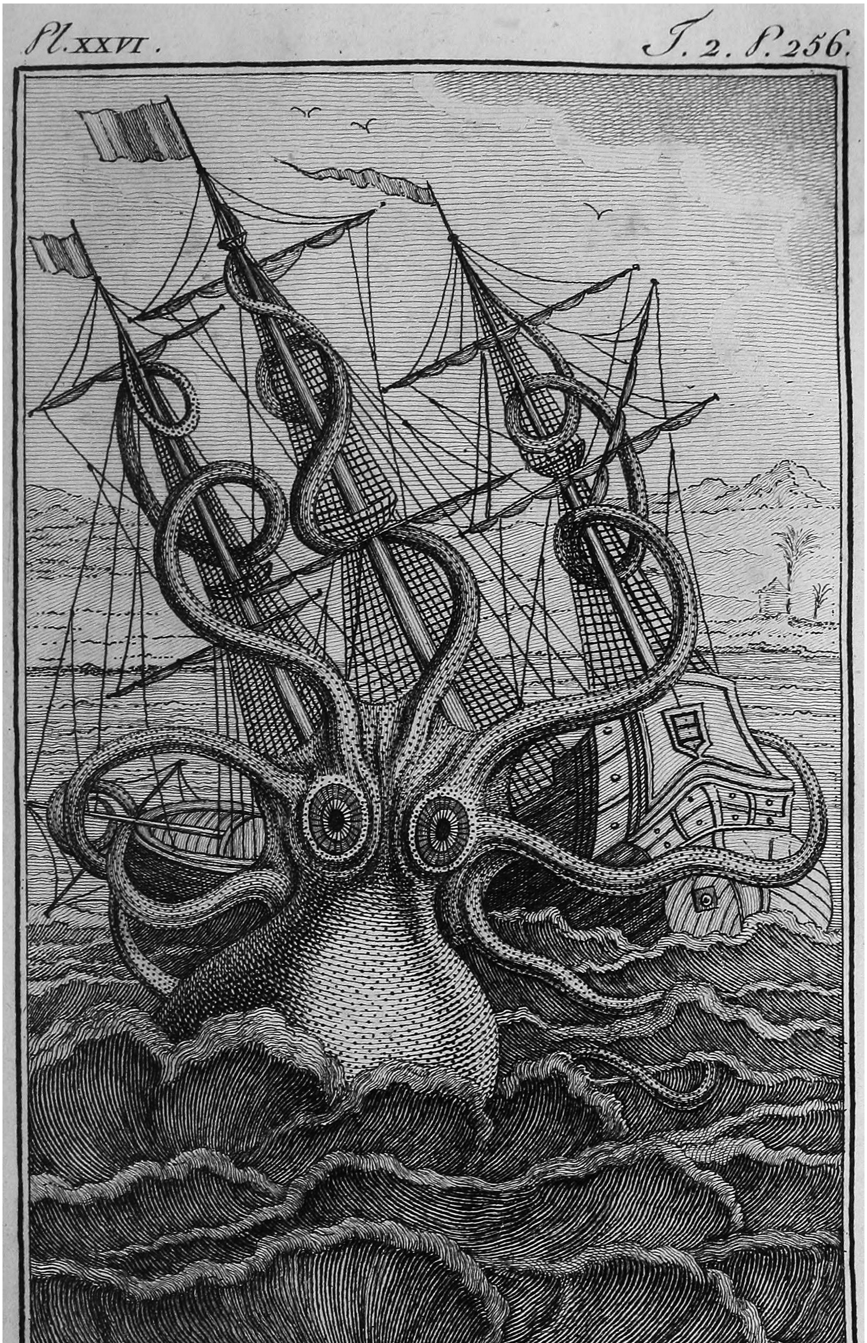
Pl. XXVI.
T. 2. P. 256.
Denys-Montfort del.
E. Voysard S.
LE POULPE COLOSSAL.

Figure 2.2 The picture of *Le Poulpe Colossal* in Denys de Montfort's treatise. Étienne Claude Voysard engraved the illustration.

Source: Denys de Montfort 1801–02b, 256.

Depictions of enormous and malevolent octopuses were not limited to the text of the works describing these animals; in Denys de Montfort's work there is a picture of a colossal octopus (Figure 2.2). This image, which became the model for other pictures of these animals for decades, had a powerful influence on contemporaries. After all, it was the first illustration of an enormous cephalopod, visually revealing the agency of such a creature. Denys de Montfort undoubtedly used this picture to reinforce his theories of the colossal octopus.[113] According to Lorraine Daston and Peter Galison, such illustrations were commonly used to demonstrate "reality" in the eighteenth century.[114]

The late eighteenth-century discourse on the vicious and enormous octopus, which subsequently defined giant-sized squid during the nineteenth century, was not, however, restricted to depicting it as a ship-sinking and savage animal. It was also used to explain yet undefined mythical sea monsters. Of these the most well-known is certainly the Kraken – supposedly the most immense creature on Earth, which lives in the northern seas and has its origins in ancient Scandinavia tradition.

The mythical kraken is believed to be derived from the stories about the mythical hafgufa. The manuscripts known as the *Konungs skuggsjá* (translated into English as the *King's Mirror*) written in c. 1250, and *Örvar-Odds* saga, written in the later thirteenth century, mention that the hafgufa lives in the Icelandic or Greenland Sea. These manuscripts describe it as an immense fish, which "is more like an island than a living thing". It is mentioned as staying submerged for days. Thereafter, it rises to the surface so that its nostrils and lower jaw are visible. It belches and all kinds of fish, both large and small, and even whales, gather in its mouth, believing that they will obtain food. After its mouth is full, it locks its jaws together and submerges back into the depths. Many authors have argued that the kraken is a later version of this older mythical animal, as there are many similarities between the two. For example, the Norwegian explorer and scientist Fridtjof Nansen wrote in his book *In Northern Mists* (1911) that "the [Hafgufa] is the same that the Norwegian fishermen now call the 'Krake'." According to Tor Åge Bringsværd, the kraken was still part of Norwegian folklore even during the twentieth century.[115]

As mentioned above, several recent studies about the giant squid suggest that the myth of Kraken originates from giant squid sightings.[116] A few propose that the Kraken derives from sightings of octopuses and sea crabs.[117] The common assumption today is, however, that the Kraken is, and has always been, equivalent to the species of giant squid. But from the historical perspective, all these theories about the origins of mythical Kraken are problematic because they ignore the complicated cultural and historical process that shaped the concept of this mythical creature.

Scholars began to seek for the origins of the Kraken after the Danish author and bishop Erik Pontoppidan published his influential *Det Første Forsøg Paa Norges Naturlige Historie* (1753).[118] This book was translated immediately into German and English.[119] It was a book that offered knowledge about Norwegian nature that was previously unknown in Europe further south, where the far north was regarded as more or less exotic. Pontoppidan introduced sea creatures such as a sea serpent, mermaids and Kraken to the broader public. Pontoppidan's writings about these creatures remained part of the public discussion in transatlantic culture throughout the late eighteenth and the nineteenth centuries and are referred even today in discussions about the history of these sea creatures.[120]

Some of the studies about the giant squid imply that Pontoppidan himself presented the Kraken as a giant squid.[121] This understanding probably derives from the passage in Pontoppidan's book, in which he writes about "a young and careless krake" that was discovered from the fjord in Alstahaug in 1680.[122] The description of this creature, that it had very long arms and gave off an intolerable stench after the carcass putrefied, could plausibly refer to a giant-sized squid.[123] However, it is not acceptable that one passage would explain the myth of the Kraken as based on the sightings of giant-sized squid, even if Pontoppidan's animal was a squid. The description is only one of the sightings of uncommon entities and phenomena explained as connected to the Kraken myth. Pontoppidan himself, as it happened, argued that the appearance of Kraken is similar to a starfish-type polyp.[124]

The Kraken, whatever the origins of this mythical being, was not manifested in any particular animal before the eighteenth century. Instead, it was understood as an entity in itself that had no resemblance to any member of the animal kingdom. When the Kraken (named as such) first appeared in literature, taxonomical classification and cataloging based on structural similarities of objects was not yet established as the dominant way to define and understand nature. Most likely, before Pontoppidan's book became known, the Kraken was a convenient concept to explain various sightings of yet unknown or unidentified phenomena or entities at sea, whether rocks, islands, or animals. However, once Pontoppidan introduced the Kraken to a broader audience during the late eighteenth century, the compulsive need among naturalists to explain mythical nature led them to seek an explanation for this fabled being. As the Frankfurt School philosophers Theodor W. Adorno and Max Horkheimer state, the Enlightenment aimed to disenchant the world by dispelling myths and replacing them with knowledge.[125]

Linnaeus made one of the first attempts to classify the mythical and immense sea creature known better as Kraken after Pontoppidan's book appeared. As noted, Linnaeus first classified this creature among zoophytes and later among shelled molluscs in the second to ninth editions of his *Systema naturæ*. He named it *Microcosmus marinus*. Some of the recent works about the giant squid incorrectly state that the *Microcosmus marinus* was the giant squid.[126] Although Linnaeus classified *Microcosmus* near *Sepia* in the first edition of *Systema naturæ*, that does not mean that he thought it resembled a cephalopod. He already classifies it among shelled mollusks in the second edition of his book series.[127]

Linnaeus' and Pontoppidan's interpretations of Kraken were soon followed by other attempts to guess the origins of this creature. For instance, the German naturalist Karl August von Bergen explained the Kraken as an enormous crustacean.[128] Many other writings during the late eighteenth century explained it as an immense crab.[129] Still other sources understood the concepts of sea serpent and Kraken as equivalent.[130] Ultimately, the mythical Kraken was not to be understood as an enormous crab, starfish or sea worm, but as an octopus.

First mentions of Kraken as an octopus appeared in Johan Hieronymus Chemnitz's article "Die Würklichkeit Des Nordischen Kracken Wird Geleugnet" (1779) and the German encyclopedia *Oekonomische Encyclopaedie* (1789).[131] Nevertheless, Bosc and Denys de Montfort were the naturalists that popularized the concept of the Kraken-octopus at the turn of the nineteenth century. Whereas Bosc only stated that the Kraken is *Sepia*, Denys de Montfort created his own species for it, *Poulpe kraken*. In his book, Denys de Montfort introduces the natural history of the octopus-Kraken in the same manner as Pontoppidan – for instance, he characterized it as the largest animal on Earth and living in the northern seas.[132]

Denys de Montfort took the Enlightenment project to replace fantasy with knowledge very seriously. For example, he explained the sea monsters in Olaus Magnus' works, which have usually been interpreted as originating from whale sightings, as deriving from encounters with huge octopuses. Denys de Montfort based this theory on his perception that whales were peaceful animals.[133] To him, there was only one animal that ferociously attacked ships – the colossal octopus.

The late eighteenth century was a period when mythical sea monsters literally made a comeback. Kraken, the sea serpent, and different other sea creatures made their appearance in different books and journals. Instead of perceiving these mythical beings as spectacles and wonders, in line with the contemporary scientific and cultural spirit, which Horkheimer and Adorno mention as the project of the Enlightenment, [134] natural historians and others strove to discover their true nature. As Pierre Hadot states, researchers of the early modern period attempted to replace the notion of a secret of nature with that of the mystery of existence.[135] Thus, the enormous octopus emerged from the ancient and early modern treatises and from Pernety's travel journal to explain the gradually growing number of sea monster narratives. As a reward for what they had done for the Enlightenment, octopuses would have to bear a heavy cultural burden. They became destroyers, enormous monsters equated with the mythical Kraken. As it will be explained in the following chapters, the discourses of enormous octopuses that spread during the late eighteenth century proved to have a huge influence on the understanding of giant-sized squid in later transatlantic culture.

Altogether, there was no tradition of understanding the enormous squid as an infamous and fabulous sea monster. The way in which seafaring cultures perceived these animals rested upon the history of contact between squid and humans. Whalers, fishermen, and other sailors mainly understood enormous squid as an uncommonly large species of the otherwise familiar squid. Pernety's travel journal and a few other works disseminated the seafaring knowledge of the squid to a broader audience. Although there was a new method of arranging natural phenomena, including animals, squid were relegated to the class that included "unclassifiable" animals, which were hardly studied because they were "vermes" and specimens were almost unobtainable for empirical research. They became confused with cuttlefish and octopuses as these animals were not properly distinguished. In the late eighteenth century, naturalists concentrated on the octopus rather than other cephalopods and speculated that they could attain remarkable dimensions. Despite the new scientific spirit, contemporary naturalists still turned to the ancient and early modern works for their information when they found no concrete evidence for an animal. So, they sought out various and enchanting, not to say sinister, meanings for the octopus.

Notes

1 Guerrini 2007, 144.
2 Foucault 2002 [1966], 143.
3 See, e.g. Ereshefsky 2000; Wellmon 2010, 154–55.
4 See, e.g. Robbins 2002, 156–85; Lynn 2006; Bensaude-Vincent & Blondel 2008; Harrison 2010, 24; Holenstein et al. 2013.
5 Schwediawer & Banks 1783, 237.
6 About Thomas see Glassford 2006, 5.
7 According to the preface of the journal, Aaron Thomas wrote his diary under candlelight on board the *Boston* in 1794 and 1795. Thomas 1968 [1794–95], 3.
8 Cartwright 1792, 45.
9 Thomas 1968 [1794–95], 183.
10 See, e.g. Aldrich 1967; Aldrich 1969; Lux & Uzmann & Lind 1978; Brix 1983; Ellis 1999, 128; Sweeney & Roper 2001.
11 See, e.g. Heuvelmans 1974a [1958], 60; Heuvelmans 1974b [1958], 284–85, 295–98, 340, 342; Ellis 1999, 4, 20, 132–34; Jeans 2004, 2; Heuvelmans 2006 [1958], 29; 147–48; 155–58; 183, 185; Roper 2007, 121; Asma 2009, 1–2; Martin 2009, 10–11; Salvador & Tomotani 2014; Tiffin 2014, 156; Adamowsky 2015, 84.
12 See e.g. Martin-Allanic 1964; Cerf 1988; Caillet 2007, 27–28; Holmberg 2014, 235.
13 Martin-Allanic 1964, 98.
14 Holmberg 2014, 88–91.
15 Au sentiment des marins de la Mer du Sud, le Cornet est le plus gros poisson de la Mer. Il faitit sa proye au moyen des barbes mobiles, qu'il a au bout du museau. Ces marins disent aussi qu'il s'attache & s'accroche aux Navires par ces mêmes barbes, & grimpe le long des manoeuvres: Que s'il le fait la nuit, sans ques l'on s'en apperçoive, il fait pancher le Navire sur le côté, par son poids énorme, jusqu'à le renverser; ce qu'ils appellent soussoubrer. Aussi a-t-on grand soin de faire bonne garde, avec des haches & autres instrumens tranchans, pour couper les barbes de ce poisson, dés que l'on apperçoit qu'il les pose sur le Navire. Pernety 1769, 602–03
16 See, e.g. Summers 1990, 14.
17 Heuvelmans 1974b [1958], 279–81; Heuvelmans 2006 [1958], 144–45.
18 Jereb & Roper 2010, 6, 173; Rosa & Seibel 2010.
19 Bright 1989, 146.
20 Pernety 1769, 603; Pernety 1771, 253.
21 See, e.g. Dunmore 2005, 55.
22 Pernety 1769, 512–17.
23 See Sée 1923.
24 Denys de Montfort emphasizes frequently in his book that St. Malo sailors had encountered immense cephalopods in the South Seas. Denys de Montfort 1801–02b, 269–78.
25 Bougainville chose Pernety to join the expedition because he knew that the monk had a wide knowledge of natural history. He had written a work *Les Fables égyptiennes et grecques dévoilées et réduites au même principe, avec une explication des hiéroglyphes et de la guerre de Troye* in 1758, which is one piece of evidence that Pernety was aware of ancient narratives about cephalopods. Pernety 1758. See also Gerbi 2010 [1955].
26 Plin. Nat. 32.6.
27 See, e.g. Gerbi 2010 [1955], 82–86, 89, 334; Dietz 2013, 712–14.
28 There may be more on this subject in unpublished materials such as diaries and letters, which could reveal more about the origins of these theories. However, to study such a mass of sources and to seek traces for these beliefs would be such challenging work that it would require a whole new study. Besides, if such impressions of squid did exist

among sailors, they would probably have spread by oral communication, which makes inquiry into the belief even more difficult.

29 See Pernety 1769; Pernety 1771.

30 See, e.g. *London Evening Post* 12.–14.11.1771; *Bingley's Journal* 9–16.11.1771; *General Evening Post* 26.–29.6.1773.

31 See, e.g. Robbins 2002; Lynn 2006, 43.

32 See, e.g. Bensaude-Vincent & Blondel 2008, 9.

33 Cartwright 1792, 45; Thomas 1968 [1794–95], 183.

34 Molina 1782, 19 9

35 It was not until the 1810s that Molina mentioned in the revised edition of his *Saggio sulla storia naturale del Chili* (1810) that the description of one of the octopuses he had mentioned in his previous book was based on Pernety's description of squid. Molina 1810, 175.

36 For instance, the Dutch philosopher and geographer Cornelius Franciscus de Pauw and the German naturalist George Foster, who accompanied James Cook on his second voyage to the Pacific in 1777, criticized Pernety for his descriptions of the nature and inhabitants of South America. Gerbi 2010 [1955], 82–89, 93, 171.

37 In fact, Denys de Montfort creates the model of his colossal monster octopus by adding considerably to Pernety's description, as will be demonstrated in Section "Defining the Modern Concept of the Enormous and Vicious Cephalopod".

38 About Marchand, see Angelier 2011, 464.

39 Marchand's book was published posthumously by the explorer and hydrographer Charles Pierre Claret de Fleurieu. See Marchand 1798.

40 Marchand 1798, 423–25.

41 See, e.g. Earle 1977, 93; Muntz 1995, 1; Ellis 1999, 4; Adamowsky 2015, 90–91.

42 Pernety 1769, 602; Pernety 1771, 252–53.

43 One can see that eighteenth-century naturalists were well-aware of the works by their ancient and early modern predecessors by looking at the source references of their treatises. See also Gibson 2015.

44 There is no previous comprehensive study about the ways in which ancient and early modern naturalists wrote about the squid. Only the works by Aristotle and Pliny are translated into English. I have scrutinized the squid descriptions by the early modern authors in the Latin of their original treatises. See Aristotle 524^{a}; Plin. Nat. 9.93; Belon 1553, 337–39; Rondelet 1554, 506–10; Gesner 1604 [1558], 491–97; Aldrovandi 1606, 64–78; Jonston 1657, 8–9.

45 Seba 1758, 7–8.

46 See Holthuis 1969; Jorink 2010, 333.

47 Seba 1758, 7–8. About Seba see e.g. Holthuis 1969; Jorink 2010, 333.

48 Obviously, it is impossible to known whether these authors were speaking of the species of giant squid, because they do not give estimated measurements and their descriptions, for instance, *Loligine magna* or *Loligine majore*, include comparative terms but not what they are being compared to.

49 See, e.g. Seba 1758; Needham 1745, 16–59; Baker 1758.

50 See, e.g. *The Wonders of Nature and Art* 1768, 102–04.

51 Bomare 1764, 200. Louise E. Robbins writes that Valmont de Bomare was renowned during his own time but is now hardly mentioned by historians. He became famous after writing his influential encyclopedia. According to French historian Daniel Mornet, Valmont de Bomare's encyclopedia was, after Buffon's *Histoire naturelle* and Pluche's *Spectacle de la nature*, the third most popular book of science. Robbins 2002, 166–67.

52 In the Linnaean taxonomy, the term *Sepia* was the order including octopuses, cuttlefishes and squid. Simultaneously, the term *sepia* was also a synonym for cuttlefishes. See e.g. Linnaeus 1735; Linnaeus 1744, 99; Baker 1758, 778.

53 See, e.g. Foucault 2002 [1966], 143–45.

54 Marc J. Ratcliff emphasizes that that natural history knowledge concerning marine animals grew tremendously in western countries after the 1740s; since the end of the sixteenth century, it had been almost nonexistent. Ratcliff 2012, 426, 434.

55 Helen M. Rozwadowski writes that Italian naturalists used dredging already in the seventeenth century. However, the milestone in dredging of natural-historical samples was the adaption of Danish naturalist Otto F. Müller's oyster dredge for collecting marine invertebrates. Beachcombing, which Rozwadowski presented largely as the collecting of great beauty, focused on fossils and shells. Rozwadowski 2005, 99–100.

56 Ratcliff 2012, 434–35.

57 See, e.g. Mann 1984, 1–5; Damkaer 2002, 24–26.

58 Needham focused on the squid, or the *calamari*, as he called it, in his *New Microscopical Discoveries* (1745). In this book, he wrote of the several squid that he had dissected and observed with a microscope. His work on squid was significant as he discovered spermatophores in it. Cooper 1894; Locy 1901, 575; Mann 1984, 3.

59 See, e.g. Brander 1753.

60 See, e.g. Ereshefsky 2000; Foucault 2002 [1966], 146–50; Schwartz 2012, 21.

61 In Linnaeus's *Systema naturæ*, the animal kingdom was divided into six classes. The first three of these were 1. Quadrupedia (Mammals), 2. Aves (Birds), 3. Amphibia (Amphibian animals). Thereafter, there was a class without serial number called Paradoxia containing creatures such as the Hydra, Pelican, Satyr, Phoenix and other mythical or doubtful animals. Next, there were the three last classes; 4. Pisces (Fishes) 5. Insecta (Insects) and last of all, 6. Vermes (Worms). It is interesting that the class of *Sepia* containing "loligo and sepia", or squid and cuttlefishes, did not mention octopus until the ninth edition published in 1756. Linnaeus 1735; Linnaeus 1756, 78.

62 Wright 2014, 211.

63 The use of the term Zoophyte persisted in natural history until the early nineteenth century. See e.g. Linnaeus 1735, 13; Morris & Morris 2002, 486; Gibson 2015, 44.

64 Linnaeus 1746, 366–67.

65 Gibson 2015, 66.

66 The taxonomical term *Mollusca* refers to molluscs. Even in the modern classification system the taxon of *Mollusca* is one of the largest phyla in the whole animal kingdom. Bouche & Strong 2010, 63.

67 In the tenth edition of *Systema naturæ* (1758) there a new method of organizing cephalopods as five different species (*Sepia octopodia*, *Sepia officinalis*, *Sepia media*, *Sepia loligo* and *Sepia sepiola*) appeared, of which only *Sepia loligo* represented squid. Linnaeus 1735; Linnaeus 1740, 63–64; Linnaeus 1744, 98–101; Linnaeus 1748, 70–76; Linnaeus 1758, 658–59.

68 See, e.g. Ereshefsky 2000; Wellmon 2010, 154–55.

69 See, e.g. Haraway 2016, 51.

70 The paradigmatic shift in cephalopod studies in the turn of the nineteenth century is explored profoundly in the Chapter 4.

71 For instance, the French naturalist Jean Guillaume Bruguière emphasized in the introduction of his *Encyclopédie méthodique. Histoire naturelle des vers* (1792) that one cannot ignore the study of *Vermes*. Bruguière 1792, i.

72 See Schneider 1784, 103–34.

73 According to Férussac and d'Orbigny, it was not until 1817, when the British naturalist William Leach organized cephalopods to *decapods* and *octopods*, as Schneider suggested already in 1784. Schneider 1784, 108; Férussac & d'Orbigny 1835–48, 2–3.

74 The *Reise igiennem Island* became the most important book that was published on Iceland so far. The book was translated into English as *Travels in Iceland: Performed by Order of His Danish Majesty* (1805). The original text, written in 1772, is used as a source in this research, because the English translation is only a summation of the original text. In addition, there are several interpretative errors in the translation. See Ólafsson & Pálsson 1805; Ogilvie 2005, 277.

75 Jónsson 1774 [1639], 238; Ólafsson & Pálsson 1772, 716–18.

76 “Hvo fert nu ikke, at dette Dyr har været en meget ftor Sepia; men hvilken Ort, det kan man ikke beftemme.” Ólafsson & Pálsson 1772, 717. The creature is the same that recent studies of the giant squid describe as one of the first sightings of this species. See e.g Ellis 1999, 215.

77 Earle 1977, 93; Muntz 1995, 1; Ellis 1999, 4; Adamowsky 2015, 90–91.

78 See, e.g. Foucault 2002 [1966], 150–64.

79 As biologists Clyde Roper and Patrizia Jereb state, many squid species habituate between the depths about 200 to 700 meters. Between these depths, the squid undergo daily vertical migrations, ascending into the uppermost 200 meters for the night and return to greater depths for the daytime. Jereb and Roper 2010, 3–6.

80 Brander 1753, 809.

81 See, e.g. Linnaeus 1735; 1740, 64; 1744, 101; 1748, 75.

82 Habitare fertur in mari Norwegico, ipse non dum animal vidi. Linnaeus 1746, 386.

83 See, e.g. Foucault 2002 [1966], 144–45.

84 See, e.g. Hoquet 2010.

85 See, e.g. Plin. Nat. 9.90–93; Belon 1553, 318–33, 337–39; Rondelet 1554, 506–19; Gesner 1604 [1558], 491–97, 737–53; Aldrovandi 1606, 7–44, 64–78; Jonston 1657, 4–9; Kircheri 1664, 98–99.

86 Molina 1782, 199.

87 About Gmelin, see Lysaght 1971, 100.

88 Gmelin 1788, 3149–151.

89 See, e.g. Robson 1933, 681; Steinbach 1951; Aldrich 1969; Cohen 1970, 27–29; Heuvelmans 1974a [1958], 54–55, 220–51; Heuvelmans 1974b [1958], 279, 327, 366, 384, 417; Earle 1977, 16, 22; Muntz 1995, 6–11; Andriano 1999, 15; Ellis 1999, 2, 17, 60; Guerra et al. 2004, 2; Ellis 2006 [1995], 113–64; Heuvelmans 2006 [1958], 23–24, 115–31, 144, 176, 201, 211, 232; Martin 2009, 10–11; Emmer 2010; Hatcher & Battey 2011, 43–45; Williams 2011; Winkelmann et al. 2013, 2; Tiffin 2014, 152–53.

90 See the Figure 2.1.

91 See, e.g. Denys de Montfort 1801–02a, Denys de Montfort 1801–02b, Denys de Montfort 1808, Denys de Montfort 1810; Roissy 1803–04, ij; Forcade 1907; Vaillant 1911; Heuvelmans 1974b [1958], 292–318; Holthuis 1991 ; Heuvelmans 2006 [1958], 153–70.

92 Baker 1758, 785; Pennant 1777, 53–54; Bosc 1801, 36; Denys de Montfort 1801b, 256–412.

93 Damkaer 2002, 31–33.

94 See, e.g. Ritvo 1985, 72; Houston et al. 2003.

95 Damkaer 2002, 132–39.

96 Ritvo 1987, 26.

97 Pennant 1777, 53–54.

98 Denys de Montfort 1801–02b, 358–69.

99 Nash 1976, 82–84; Emanuel 2005, 263; McCulloch 2015, 133–35.

100 Pernety 1769, 602 ; Pennant 1777, 53–54; Bosc 1801, 36; Denys de Montfort 1801–02b, 256–412.

101 Denys de Montfort 1801–02b, 281–88.

102 See Plin. Nat. 9.90–93; Belon 1553, 318–33; Rondelet 1554, 510–19; Gesner 1604 [1558], 737–53; Aldrovandi 1606, 7–44; Jonston 1657, 4–7; Kircheri 1664, 98–99.

103 Praetera negat ullum atrocius esse animal ad conficiendum hominem in aqua. Plin. Nat. 9.91–9.93.

104 Aldrovandi 1606, 7–8.

105 Kircheri 1664, 99.

106 Baker 1758, 785.

107 Denys de Montfort 1801–02b, 256–412.

108 Pennant 1777, 53–54; Denys de Montfort 1801–02b, 279–81.

109 See Daston & Park 1998, 173.
110 Denys de Montfort 1801–02b, 271–78.
111 Denys de Montfort 1801–02b, 16–17.
112 Barrère 2014, 85.
113 Denys de Montfort's picture shows the attempt of a colossal octopus to sink the St. Malo ship. He explained the picture as a copy of the ex voto, acquired by St. Malo sailors, which was devoted to Saint Thomas. Heuvelmans wrote that he has tried to find the ex voto from St. Malo and Marseile, but in vain. Denys de Montfort 1801–02b, 269–78; Heuvelmans 1974b [1958], 302 ; Heuvelmans 2006 [1958], 159. About ex-voto, see Žitko 2007.
114 Daston & Galison 2010, 55–115.
115 Rafn 1829, 249; Nansen 1911, 244; Larson (trans.) 1917 [app. 1250], 125; Bringsværd 1970, 68–70.
116 See, e.g. Robson 1933, 681; Steinbach 1951; Aldrich 1969; Cohen 1970, 27–29; Heuvelmans 1974a [1958], 54–55, 220–51; Heuvelmans 1974b [1958], 279, 327, 366, 384, 417; Earle 1977, 16, 22; Muntz 1995, 6–11; Andriano 1999, 15; Ellis 1999, 2, 17, 60; Guerra et al. 2004, 2; Ellis 2006 [1995], 113–64; Heuvelmans 2006 [1958], 23–24, 115–31, 144, 176, 201, 211, 232; Martin 2009, 10–11; Emmer 2010; Hatcher & Battey 2011, 43–45; Williams 2011; Winkelmann et al. 2013, 2; Tiffin 2014, 152–53.
117 Caillois 1973, 43; Meurger 1999; Paxton 2003, 24–25.
118 Pontoppidan 1753.
119 Pontoppidan 1753–54; Pontoppidan 1755.
120 See, e.g. ”Du Kraken ou Kraxen, le plus grand des animeux qui vivent dans la mer, tiré du Nouveau Magazin d' Hambourg.” 1762, 115–24; *The Consultation, a Poem, in Four Cantos* 1771. 40–43; Jones 1772, 330; Helvétius 1777, 271–72; Chemnitz 1779; Raff 1781, 551, 641–42; Gunnerrus 1784; Krünitz et al. 1789, 666–701; Blackwood 1818; Montgomery 1819, 29; Purdy 1820, 19–24; *An Essay on the Credibility of the Existence of the Kraken, Sea Serpent, and Other Sea Monsters* 1849; Landrin 1867, 33–36; Packard 1872; Cohen 1970, 27–29; Heuvelmans 1974a [1958], 228–44; Andriano 1999, 33–34; Ellis 1999, 16–17; Heuvelmans 2006 [1958], 119–29; Brenna 2012; Loxton & Prothero 2013.
121 See, e.g. Cohen 1970, 27–29; Earle 1977, 91–92; Muntz 1995, 6.
122 Alstahaug is a municipality in Norland County in Norway.
123 Pontoppidan 1753, 344; Pontoppidan 1753–54, 399; Pontoppidan 1755, 213.
124 Remarkably, Heuvelmans also explains in his book that Pontoppidan did not understand kraken as a giant squid. Instead, he argues that Pontoppidan's perception of the kraken as an animal resembling a starfish known today with the name “basket star” was derived from a sighting of a school of giant squid. Heuvelmans 1974a [1958], 244; Heuvelmans 2006 [1958], 128.
125 Horkheimer & Adorno 2002, 1.
126 The understanding of *Microcosmus marinus* as the giant squid is undoubtedly derived from the book *Manual of Conchology. Structural and Systematic* (1879) by the eminent malacologist George Washington Tryon. Some studies also mistook Lorenz Oken's *Sepia microcosmus*, classified in the early nineteenth century, for Linnaeus's *Microcosmus marinus*. The former is based on Oken's own taxonomy for Denys de Montfort's colossal octopus. Tryon 1879, 76; Heuvelmans 1974a [1958], 224–25; Weiss 2002, 152; Heuvelmans 2006 [1958], 118; Salvator & Tomotani 2014, 976–77.
127 Linnaeus 1740, 64.
128 Bergen 1761, 149.
129 For instance, *The Consultation, a Poem, in Four Cantos* (1771) includes two lines concerning the kraken and Pontoppidan: “Why you're as much addicted, John, To wonders, as Pontoppidan, Who prov'd Norwegian crab to be An island floating in the sea, When all the world know him mistaken, And wilfully too in his Kraken: [...] Why mention you Pontoppidan? What's Kraken, sir, or Crab to John?” Another example

was published in *A Bran New Wark, by William de Worfat, containing a True Calendar of his Thoughts Concerning Good Nebberhood* (1785) written by the Rev. William Hutton (1737–1811), under the pseudonym William Worfat. Hutton wrote "[y]e heve heard of elephants, and whales; what huge lumps of beane and grisle, of fat and blubber! deary me! let net these creatures surprise ye? should a kraken welter up the sands, and fill the gap between Arnside-point, and Meethop-cragg, ye mud weel astonished." There is a footnote to the word kraken in the book, in which it is described as "an enormous sea animal of a crablike form, found near the coast of Norway." *The Consultation, a Poem, in Four Cantos* 1771. 40–43; Hutton 1785, 12; Shorrocks 2004, 119.

130 For instance, the people who claimed to have sighted kraken mentioned that it was an enormous sea worm. Two widely discussed sightings of kraken of this type occurred in Scotland in 1774 and 1786. *St. James's Chronicle or the British Evening Post* 9.12.1775; *Lloyd's Evening Post* 13.12.1775; "Letter relative to the Kraken" 1790, 16–17; Kingshill & Westwood 2012, 310–11.

131 See Chemnitz 1779, 33; Krünitz et al. 1789, 666–701.

132 Denys de Montfort 1801–02b, 386–411.

133 Ibid. 288–320.

134 Horkheimer & Adorno 2002, 1.

135 Hadot 2006, 300.

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Part II

The years of uncertainty and discovery, 1802–61

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3 The early nineteenth-century encounters with giant-sized squid

The beginning of the nineteenth century brought various changes to the transatlantic culture and society compared to the eighteenth century. The Industrial Revolution turned into a global movement and, for instance, the first public railway in the world was opened in England. The first telegraphs were also sent during this era. One of the most famous figures of the period was the Emperor of the French Empire Napoleon Bonaparte. The Napoleonic period lasted from 1799 to 1815 and it included several of his conquests in Europe, which were later called the Napoleonic Wars. These conflicts caused major changes in European politics, but they also dramatically changed the map of Europe. Overall, the world map changed a lot during the first part of the nineteenth century. For instance, the United States expanded to the Pacific Coast and many of the countries in Central and South America obtained independence.

The beginning of the nineteenth century saw also emerge of nationalism, which shaped much of the future world history. In addition to this, it has been characterized as most vital period of romanticism, when lot of art emphasizing emotions such as awe and fear and the experiences in confronting the sublimity of nature was produced. For instance, *Frankenstein* by the English novelist Mary Shelley was published in 1818 and the German painter Caspar David Friedrich made various famous landscapes, including several seascape paintings.

As Friedrich's paintings demonstrate, the interest in the sea had persisted in the transatlantic culture from the late eighteenth century. Nevertheless, the way to perceive the sea changed. If people yet in the late eighteenth century admired mainly the coastal areas of the sea, their attention was now drawn much faraway to the high seas. The sperm whaling industry, which had its heyday in the early nineteenth century, sent vessels to the rich whaling grounds of the Pacific Ocean. The merchant navies of different countries expanded from those of the previous century, and more expeditions, which included eager naturalists, were sent by sea to faraway lands. This was also the period when maritime novels, giving a glimpse of the life aboard different vessels, began to appear. These novels emphasized the sea voyage as an adventure on which one could grow his experience and test his courage. Such novels began to inspire other people to go to sea.

Altogether, people began to be at sea in the first part of the nineteenth century much more than ever before, and at the same time the odds on encountering a

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giant-sized squid increased as the traffic on the seas grew. This chapter examines how the understanding about enormous squid encountered in nature was formulated during the early nineteenth century.

The shared history of enormous squid and whalers in the early nineteenth century

As in the previous century, so early nineteenth-century whalers undoubtedly encountered more enormous squid than any other group of seafarers. They hunted sperm whales that fed upon giant-sized squid, whose remains they occasionally saw.[1] Nevertheless, the number of encounters between enormous squid and whalers probably increased in the early nineteenth century because the global sperm whaling industry grew during the period in response to an increased demand for spermaceti oil.[2]

As Eric Dolin mentions, the period after the War of 1812 was the Golden Age for the American whaling industry. This war was a conflict between Britain and the United States. After the 1814 treaty, American shipping was free to carry on its activities without sanctions and the whaling industry began to grow. Thus, the American whalers began to dominate the field increasingly from the 1810s and continued to do so until the late nineteenth century, although other nations such as Great Britain also participated.[3] Nantucket and New Bedford were the largest whaling ports during this period, but they were not the only ones. More than 60 other coastal communities participated in whaling between the 1820s and the 1850s.[4] However this, the heyday of the sperm whaling industry, did not last more than a few decades, as the discovery of petroleum provided an alternative to whale oil and began to lower the demand for it in the 1850s.[5]

Because whalers killed sperm whales with such efficiency, they were forced to make longer and more far-reaching journeys than before to obtain a decent amount of spermaceti oil. The sperm whaling fleets increasingly began to work in the Pacific Ocean, which also meant that whaling voyages could last several years. The Panama Canal was not yet built, and the whaling ships had to pass Cape Horn to reach the Pacific. Thus, many whalers spent more time at sea than at home. As voyages began to take longer, several captains and their officers also faced difficulties in maintaining order on board. For instance, mutinies and murders became more common. At the same time, whalers had the possibility to travel to places, where any American or European had ever been. They discovered hundreds of islands and whaling captains also made observations that corrected mistakes in current charts. Overall, whalers were the biggest group in the early nineteenth century to experience the Pacific, which was yet mainly unknown to the transatlantic culture. The knowledge of the Pacific world was filtered through their eyes and represented to the transatlantic audience by the exotic items they brought with them and their memories told and written down.[6]

Since the number of sperm whales killed grew tremendously during this period, it follows that whalers must have witnessed more pieces or complete carcasses of enormous squid than earlier. Seemingly, this was the case because giant-sized squid became more familiar to whalers than ever before. In fact, the importance of the squid, whether they were small or enormous, began to grow for whalers during the nineteenth century, as they recognized that the presence of remains of squid indicated excellent sperm whaling grounds. Familiarization with enormous squid made whalers think about these animals more than before. Some began to ponder the habitat of enormous squid and especially the sizes and variety of squid. But this contemplation of the nature of sizeable squid did not mean that whalers began to understand them as monsters. It primarily expressed curiosity about nature.

Despite whalers' general attitude, between the late 1830s and the beginning 1850s two texts describing enormous cephalopods as terrible creatures and written by persons with whaling experience appeared. These were the books by two whaling authors, the British ship surgeon Thomas Beale and the renowned American novelist Herman Melville.[7] Nevertheless, their reason for describing enormous cephalopods as terrifying creatures did not derive from whaling lore. Their descriptions contributed instead to the natural-historical discourse about imagined and enormous octopuses.

In addition to the different ways in which whalers understood giant-sized squid, whalers' knowledge about the sea and its life, including enormous squid, began to circulate to a broader audience through numerous publications in the early nineteenth century. Books written by people who had participated in whaling voyages began to appear in the 1820s.[8] As Joan Druett mentions, part of these books became very popular during the nineteenth century as contemporary armchair travelers found whaling fascinating.[9] As Helen M. Rozwadowski mentions, some scientists who studied oceanography and marine life included whalers' reminiscenses in their treatises from the 1850s on. For instance, the American marine officer and oceanographer Matthew Fontaine Maury corresponded with various whaling captains, who informed him of the observations they had made during their voyages.[10]

Nevertheless, the various publications describing whalers' perceptions of enormous cephalopods achieved varied success among the public. The dominant perception of whalers, the understanding of enormous squid as ordinary marine animals, did not reach a broader audience, whereas Beale's influential book describing enormous cephalopods as horrible and dangerous monsters did. Thus, although the idea that enormous cephalopods were monsters emerged from the early nineteenth-century whaling publications, this understanding did not reflect the dominant perception of most whalers. Instead, it reiterated the discourses about enormous octopuses in the natural historical context, which a marginal group of educated whalers saw as more reliable knowledge than whaling lore.[11]

As a matter of fact, all the whaling authors who described enormous cephalopods in their books published for a wider audience were more or less educated. However, there were suprisingly few of them, who mentioned giant-sized cephalopods. In addition to Thomas Beale and Herman Melville, only the British ship surgeon Frederick Bennett and the reverend Henry T. Cheever wrote a few lines about the enormous squid occasionally encountered by whalers.[12] Thomas Beale and Frederick Bennett were both doctors, who served as surgeons on a whaling vessel. In addition, Bennett, for instance, was a member of the Royal Geographical

Society and the Zoological Society of London, which was not usual among whalers. Herman Melville also had a wide reading knowledge, and he had worked as a schoolmaster before signing aboard a whaling vessel. Besides these authors, Cheever was not a whaler but an educated missionary who traveled on a whaling vessel as he returned from missionary work in the Pacific in the 1840s.[13]

I have not found mentions of the giant-sized squid from the books published by whaling captains or other crew members of whaling vessels. Altogether, most of the whalers did not probably even had similar possibilities to publish their memories as the more influential persons such as Beale or Bennett. However, I have traced a printed copies of three whalers' letters that mention giant-sized squid in Maury's renowned book series *Explanations and Sailing Directions to Accompany the Wind and Current Charts* (1853).[14] Captain Daniel McKenzie and Captain Roys sent letters to Maury mentioning the animal. In addition to these letters, McKenzie sent the unpublished *Natural History of Spermaceti Whale* by Captain Francis Post to Maury, which included a description of sizeable squid.[15] Moreover, as in the previous century, whalers wrote logbooks during their voyages that described all matters regarded as significant, including sightings of animals.[16] Various whaling logbooks by United States whalers written between the 1820s and the 1860s have been read for this book.[17] Interestingly, these logbooks contain various references to squid, unlike the late eighteenth-century ones.

From these sources, it becomes evident that nineteenth-century whalers begun to understand sizeable squid as more useful and familiar to them than their late eighteenth-century predecessors had. Whalers started to grasp the connection between the squid and the sperm whale. The body parts and carcasses of squid, floating on the surface, were recognized as signaling the presence of sperm whales, and were no longer simply fish bait or nourishment. This acquaintance with both enormous and small squid excludes the possibility that the majority of whalers perceived these animals as terrifying monsters.

The whaling logs clearly reveal that by their significance as indicators of good whaling grounds squid of all sizes became familiar to whalers. These sources rarely mention the difference between small and enormous squid, although whalers must have seen remains of both. The majority of the squid sightings marked in the whaling logs only mention that whalers "saw a squid."[18] These entries were made because whalers assumed a sighting of a squid to mean that sperm whales were not far away. For instance, the logbook of Nantucket ship *Mary*, sailing in 1843–45, contains a mention "Passed many squid and supposed sperm whales not far off."[19] The logbook of the whaling vessel *California*, sailing at the turn of the 1850s, mentions that whalers commonly called the squid "whale food."[20] The phrase "whale food" demonstrates that it was not the size of the squid but the importance of the body parts or carcasses as indicators of the vicinity of sperm whales that mattered.

Among the logbooks scrutinized for this book, I have found only one remark mentioning the size of a squid. The logbook of the *Harvest* has this entry for May 18, 1853: "Saw a large squid floating in the water. Lowered a boat and picked it up. It had the appearance of having been in a whale's stomach."[21] The quote mentions the size of the squid, but it also defines the squid by its connection with a sperm whale. The size of the squid was most likely mentioned because the crew hoisted the animal aboard the ship, perhaps to cut it up as fish bait. The Harvest's crew may have had a closer encounter with a dead squid than other whalers, and it is arguably because of this that the writer of its log felt it necessary to mention the size of the squid. Nevertheless, whatever the reason was, the animal was not declared ugly or frightening.

The accounts of enormous squid that whaling captains sent to Maury also indicate that whalers perceived these animals primarily as familiar and useful animals that revealed excellent whaling grounds. For instance, Captain Francis Post writes that "Cuttle or squid, supposed to be the only food which sperm whales ever eat, are often found in shoal waters […] Large pieces of squid are often seen floating on the sea, which whalers consider indicate good whale ground."[22] The quote by Post again demonstrates that body parts of enormous squid were important because they indicated the nearness of sperm whales. The body of enormous squid thus had a great significance among seamen working in the sperm whaling industry as their remains enabled whalers to fill the hold of their whaling vessels with oil barrels more quickly than before. Put another way, sightings of enormous squid speeded them on their return to the homeport. Whalers were hardly likely to regard giant-sized squid as monsters in these circumstances. As Harriet Ritvo writes, usefulness was an appreciated characteristic for an animal, defining its place in a hierarchy between "good" and "bad."[23] The sources cited above tell us that the enormous squid was more than useful to early nineteenth-century whalers.

The closer relationship between whalers and giant-sized squid made whalers pay more attention to this animal than before, so that enormous squid were not perceived merely as "whale food" but also as fascinating and thought-provoking animals. Arguably, the curiosity that some whalers felt while encountering sizeable squid did not have anything in common with feelings such as fear or repulsion. Instead, it can be interpreted as amazement evoked by the size difference among squid, which the late eighteenth-century mariners had also noted. The amazement at these animals was exclusively based on the size of the squid.

The curiosity induced by enormous squid emerges especially in the accounts of squid by the whaling captains McKenzie and Roys. Each of them wrote that witnessing pieces of giant-sized squid floating on the surface gave them the impression that the squid must be enormous in the depths of the seas. For instance, McKenzie wrote the following while describing the food of sperm whales.

> The principle article of food (and indeed the only one as far as I know) is squid; the smaller kind they eat is found near the surface, and is from two to three feet in length; the larger kind, which probably have their haunts deep in the sea, must be of immense size—the flesh soft and of gelatinous substance. I have seen very large junks floating on the surface entirely shapeless.[24]

Like McKenzie, Roys notes the size difference of squid in his account of enormous squid:

> I have seen it in large pieces floating upon the surface. I have seen a dying whale vomit it up. I have opened the stomach of a whale and seen it there in pieces: which convinces me that the animal is very large, also as well as small.[25]

McKenzie and Roys both contemplate the nature of squid, but neither describes what they thought to be enormous squid as a monster. Instead, they regarded the size difference among squid as one of the many curiosities of the vast ocean. Moreover, these contemplations were only side remarks in McKenzie's and Roys's letters to Maury, which indicates that they did not see the size difference among squid as the most remarkable characteristic of these animals.

The curiosity awakened by the size of enormous squid also emerges in the *Narrative of a Whaling Voyage Round the Globe from the Year 1833 to 1836* (1840) by the whaling author Frederick Bennett. He mentions that whalers occasionally discovered pieces of enormous squid in sperm whales' vomit. After that, Bennett writes: "We cannot fail to be impressed with a truly magnificent idea of the profusion of animal life which must necessarily exist in the ocean's depths."[26] Bennett's quote, like the other sources, reveals that the interest evoked by the size difference among squid did not mean that whalers understood enormous squid as monsters. It was simply one feature in mariners' contemplation of the secrets in the depths of the seas, stimulated by curiosity, not dread or repulsion.

It is interesting that Bennett saw the existence of marine life in the great depths as necessary in his renowned narrative of the 1840s, at a time when the majority of influential naturalists believed that no life could exist in the depths. According to his own book, Bennett was an enthusiastic and skillful observer of nature. He evidently had an extensive natural-historical knowledge. This feature often emerges in his book as he explains the natural world. It is interesting that Bennett also discussed natural phenomena on the basis of his empirical observation, although they were opposed to the dominant beliefs among contemporary natural historians. For instance, he stated that the existence of life in the great depths of the sea is necessary, although many of the most influential naturalists suggested that the water pressure would be too strong there to sustain life. The English geologist Henry de la Beche had already proposed the conception of the lifeless depths in 1834. The idea of a lifeless deep ocean was, however, popularized by the British naturalist Edward Forbes with his famous azoic theory of 1841, explaining that no marine life could exist deeper than 550 meters. Remarkably, it took 25 years for this argument to be dismissed. Thus, Bennett was ahead of his time by talking about the life in great depths.[27]

Nevertheless, amazement at the variety of sizes of squid does not appear in many whaling documents, and only rarely in the nineteenth-century logs, even when they mention spotting one. This indicates that contemplation of ontological questions related to squid was not a common habit among whalers. However, whether or not this was the case, there is no indication at all that whalers perceived sizeable squid as horrifying creatures.

As mentioned, the exceptions concerning the understanding of enormous squid were the influential whaling authors Thomas Beale and Herman Melville, who both described enormous cephalopds as terrifying beings. Interestingly, they also wrote much longer descriptions of these animals than the other whaling authors. Thomas Beale, for instance, wrote a longer and more extensive description of enormous cephalopods than any contemporary whaling author.[28] However, Beale's description of these animals was a contribution not so much to whaling lore as to the natural-historical literature published between the mid-eighteenth century and the 1830s. Description of enormous squid as monsters did not come from whaling culture because of whalers' fear of enormous squid or because of the alleged menacing agency of these animals. The process worked the other way round: the description of squid monsters was a feature that became part of the whaling culture because Thomas Beale described both enormous and small cephalopods as ugly and terrifying creatures in his esteemed *The Natural History of the Sperm Whale* (1839).[29] I also concur with those Melville scholars who have argued that Beale was the author that had the most significant impact on Melville's portrayal of an enormous squid as a sinister and mystic animal in his *Moby-Dick*.[30]

One has to ask why Beale decided to contribute to the knowledge about enormous cephalopods by producing natural-historical and popular publications, although whalers had their unique way of perceiving these animals. As mentioned before, Beale, like many other whaling authors, understood earlier natural history writers as an authority regarding knowledge about nature. In addition to this, Beale probably did not initially see squid or octopuses as particularly interesting animals. This is clear from his booklet *A Few Observations on the Natural History of the Sperm Whale* (1835) that was published four years before *The Natural History of the Sperm Whale*, of which the latter one is a revised edition.[31] The booklet includes only a few sentences about cephalopods, but nothing about their variation in size. Moreover, Beale does not mention them as horrifying or ugly animals.[32] Despite this, four years later he wrote a book including several pages with descriptions of horrifying and ugly cephalopods that can grow to an enormous size. It seems that these descriptions of terrifying and repulsive cephalopods in *The Natural History of the Sperm Whale* were merely additions inspired by earlier natural-historical and popular literature, which Beale used to increase the amount of information in his book.[33]

The reason to use the word "cephalopod" instead of squid when discussing Beale's descriptions of enormous and horrifying cephalopods is that Beale could not explain with any precision the difference between the squid and octopus and ended up interpreting them as the same animal. Unlike Bennett, who emphasized that enormous squid are unfamiliar to contemporary naturalists,[34] Beale did not understand that the giant-sized cephalopods encountered by whalers might be different animals than the enormous octopuses mentioned as monster creatures in earlier natural-historical works.[35] Put another way, he did not realize that whalers had more empirical knowledge about enormous squid than earlier naturalists. As Rozwadowski mentions, whalers were the vanguard of the ocean sciences.[36] Beale's lack of awareness of the difference between the squid and the octopus led him to seize the opportunity to use some of the renowned narratives about enormous and vicious octopuses in the same context as the giant-sized squid encountered by whalers. With his book, he inadvertently created an illusion that the giant-sized squid occasionally encountered by whalers were the same animals as the enormous octopuses mentioned in various publications since the mid-eighteenth century.

Although Beale's description of enormous cephalopods was unique in the context of whaling culture up to the 1840s, his writings ironically attracted considerable attention in contemporary public discussion. Unlike the descriptions of cephalopods by other whaling authors, various later writings that explained the characteristics and agency of these animals referred to Beale's writings.[37] This occurred because of the extent and effectiveness of Beale's descriptions. His writings about enormous cephalopods were the most exhaustive published so far by a writer that had traveled aboard a whaling ship and encountered various cephalopods himself. Thus, Beale's writings could easily be accepted as an accurate and meticulous description of the enormous cephalopods sometimes encountered by whalers.

Beale's narratives about cephalopods were also very effective. He referred, for instance, to the tale published in Sir Grenville Temple's *Excursion in the Mediterranean* (1835), which mentions a Sardinian captain drowned by an octopus while bathing in the sea.[38] Moreover, Beale told a tale about an octopus that had attacked him on the shore of Bonin Island, some 1,000 kilometres to south from the Japan. He wrote that the octopus was ugly and disgusting as well as "no bigger than a large clenched hand."[39] Beale wrote that the octopus tried to evade him, but he stamped on one of its tentacles and attempted to rip another from its body. To Beale's astonishment, the octopus was enraged by his act and grasped Beale's arm to bite it. Beale described his feelings when he noticed the hostile agency of the octopus:

> A sensation of horror pervaded my whole frame when I found this monstrous animal had affixed so firmly upon my arm. Its cold slimy grasp was extremely sickening, and I immediately called aloud to the captain, who was also searching for shells at some distance, to come and release me from my disgusting assailant.[40]

This quote describing Beale's encounter with an octopus, undoubtedly inspired by the representations of octopuses in contemporary literature, became an iconic description, later applied to all the cephalopods. It began to appear in various contexts such as animal encyclopedias from the 1840s onwards.[41] The American author Samuel Griswold Goodrich even illustrated Beale's encounter with an octopus in his *Illustrated Natural History of the Animal Kingdom* (1859) (Figure 3.1).[42]

As Howard P. Vincent writes, Melville marked the episode of the encounter with an octopus in the margins in his copy of *The Natural History of the Sperm Whale*, which he used, among other sources, as a basis for his description of the enormous squid in his *Moby-Dick*.[43] Hence, the agency of one small octopus that had a chance encounter with a human, that first attempted to evade its tormentor and then tried to defend itself when threatened, had a huge impact to how octopuses and other cephalopods were understood, especially in the English-speaking world.

Beale's cephalopod representations eventually had a significant impact on the public discussion about these animals, but it is difficult to assess the influence of these descriptions on whalers' perceptions of giant-sized squid. As Burnett states, works by whaling authors such as Beale emerged from the whaling community but also returned there, as whalers read their books.[44] Beale's descriptions of cephalopods must have affected whalers' perceptions of these animals to an extent, but

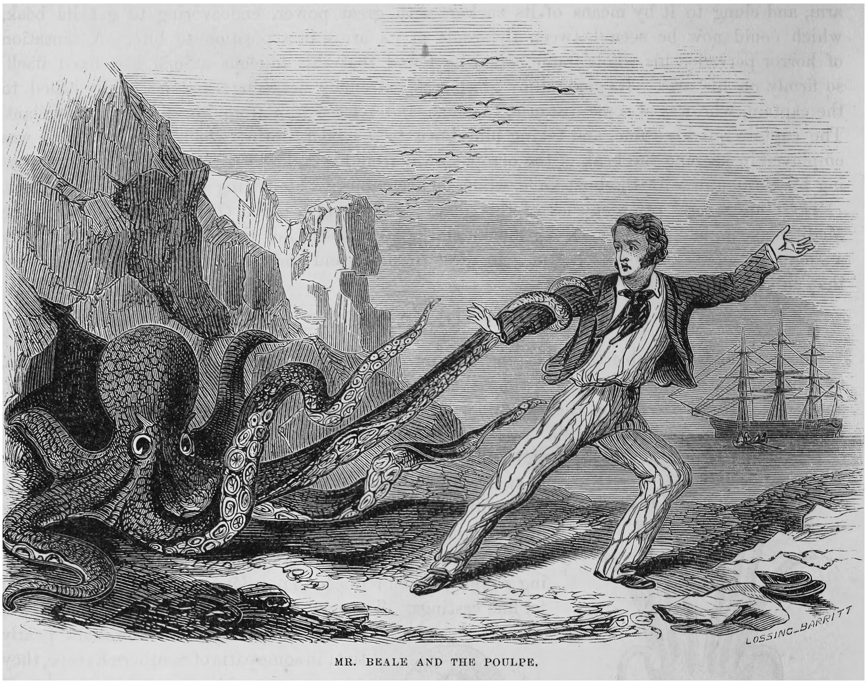
MR. BEALE AND THE POULPE.
LOSSING-BARRITT

Figure 3.1 Artist's depiction of the struggle between Beale and an octopus. The size of the octopus, "no bigger than a large clenched hand," is wildly exaggerated in the drawing. Source: Goodrich 1859, 498.

they did not gain any strong foothold among whalers before sperm whaling activity began to decline after the 1850s. I have not discovered any whaling sources indicating influence from Beale's descriptions of horrifying cephalopods before 1860 Melville's *Moby-Dick* being the one exception. For instance, the accounts of enormous squid by McKenzie, Post, and Roys, all written nearly ten years after the publication of Beale's book, show no signs of it.

Melville was one of the few people with whaling experience,[45] who was influenced by Beale's cephalopod descriptions. He wrote a chapter "Squid" in his influential *Moby-Dick*, in which the novel's main characters encounter an enormous squid floating on the ocean surface and state that the animal is a rarely seen and portentous creature. The chapter also includes some contemporary snippets of information or lore about giant-sized squid. For instance, that the squid is thought to be the most massive thing living in the seas, whales disgorge pieces of this animal, naturalists have only heard rumors about it, and the mythical Kraken might have derived from the sightings of these squid.[46]

Various scholars have noted the symbolical dimensions of Melville's squid description.[47] Nevertheless, as some historians and other scholars emphasize, fictional novels usually have a historical context.[48] Melville's novel is no exception, and his squid description says something about 1850s attitudes. Several studies of the giant squid have noted this and referred to Melville's portrayal of enormous squid, but unfortunately they have made too much of it. Many of these studies use Melville's description to argue that contemporary seafarers perceived enormous squid as terrifying monsters.[49] Instead, Melville's portrayal of the squid primarily reflects the understanding of enormous cephalopods in contemporary literature, including the works by renowned whaling authors such as Beale and Bennett.

As Vincent mentions, Melville referred to Beale in his description of enormous squid, but also to Bennett when he wrote that naturalists had heard only rumors about this animal. Vincent also suggests that Melville entangled Pontoppidan's Kraken with his giant-sized squid tale because Beale's descriptions of terrifying cephalopods inspired him.[50] The explanation of the mythical Kraken as an enormous octopus was well established in public discussion throughout the nineteenth century.[51] Melville's idea of connecting a giant-sized squid and the Kraken must have been derived from this context because whaling authors and other whaling sources do not mention a word about the Kraken before the publication of *Moby-Dick* in 1851.[52] Thus, we can safely state that Melville was, in fact, one of the first people, if not the first, who entwined the discourse of mythical Kraken and enormous squid. However, it would take two decades for a broader audience to absorb this and understand these entities as synonyms.

It must be noted that Melville's novel was not nearly as famous in the nineteenth century as it has been since the 1920s.[53] For this reason, it is improbable that it disseminated the knowledge about enormous squid as efficiently as Beale's book. On the other hand, Melville's portrayal of squid is a notable example of how effectively works by Beale, Bennett and other contemporary literature influenced people who had worked in the sperm whaling industry in the 1850s.

Whalers had their own way of perceiving enormous squid as an animal that revealed the presence of sperm whales during the first part of the nineteenth century. Some nineteenth-century whalers, unlike their eighteenth-century predecessors, found giant-sized squid thought-provoking animals. Yet renowned whaling authors such as Thomas Beale implied in their books that whalers perceived the enormous cephalopod they occasionally encountered as terrifying and portentous animals. Nevertheless, Beale drew on contemporary literature for his representations of small and giant-sized cephalopods, instead of using whalers' perceptions of them. The contemporary public followed his lead.

Encounters between the giant-sized squid and fishermen, naturalists, and sailors

Whalers witnessed enormous squid more often than any other people from the 1800s to the 1850s, but they were not the only ones who encountered them. As in the late eighteenth century, those who were not whalers and encountered giant-sized squid were mainly sailors, fishermen, and naturalists that participated in expeditions.

I have discovered only a few writings describing a sighting of sizeable squid made by non-whalers during this period. This does not, however, mean that giant-sized squid were seen more rarely by such people in the early nineteenth century than earlier: we cannot assume that every encounter was recorded and of those that were some may still await discovery. The biologist Frederick Aldrich appears to overlooked this problem when he speculated that strandings of giant squid were a cyclic phenomenon. His theory rests on the known historical sources, which include a negligible number of sightings of enormous squid in the early nineteenth century.[54]

The careful analysis of the few existing sources suggest that non-whalers must have encountered enormous squid more often than the early nineteenth-century sources reveal at first glance. The only contemporary first-hand account of enormous squid among these sources not described by a natural historian was written by the French captain Louis de Freycinet. He was a navigator who had an illustrious career in the French Navy and participated in two expeditions around the world. The first of these was the Baudin expedition in 1800–03 and the second the expedition that he led in 1817–20.[55]

From these expeditions, the Freycinet circumnavigation in 1817–20 was one of the great French expeditions of the early nineteenth century. Apparently, one of its main goals, in addition to obtaining scientific observations, was to explore Australia, of which only a part of the coast was known.[56] During this expedition, he and his crew also encountered giant-sized squid near the equator in the Atlantic Ocean in December 1817.[57]

All the other sources analyzed in this section are from the natural-historical publications of the 1800 to 1860 period. Examples are the papers by the Danish zoologists Japetus Steenstrup and the Dutch naturalist Pieter Harting; both specialized in the study of enormous squid in the mid-nineteenth century and mention sightings of enormous squid by sailors and fishermen.[58]

Steenstrup's papers mention that fishermen discovered a giant-sized squid stranded on the shores of the Skagerrak in northern Jutland, Denmark, in December 1853. Steenstrup also writes a few words about the Danish sea captain Vilhelm Hygom, who found a giant-sized squid near Bermuda in 1854. In addition to Steenstrup's papers, the Dutch naturalist Pieter Harting mentions in his articles that Dutch sailors had found remains of enormous squid during the mid-nineteenth century.

In addition to these texts, there are accounts of giant-sized squid by four naturalists who witnessed these animals in the first half of the nineteenth century. These accounts were written by the renowned French naturalists François Péron, Jean René Constant Quoy and Joseph Paul Gaimard, and Sander Rang.

Péron wrote his accounts about his sightings of enormous squid and a long tentacle while on the Baudin expedition to Australia in 1800–03. This expedition was a French attempt to map the coast of New Holland (now Australia). It was led by French explorer Nicolas Baudin. In addition to Péron, the expedition was accompanied by several other naturalists. However, many of them died and deserted the ship during the voyage. Thus, Péron achieved a significant position among zoologists. Together with the artist and naturalist Charles Alexandre Lesueur, Péron gathered some hundred thousand new zoological specimens. He died only eight years after the expedition ended of tuberculosis. Péron was just 35 years old and many of his work was left undone.[59]

Both Quoy and Gaimard were French naval surgeons, who also had skills in natural history. They participated as naturalists in the Freycinet circumnavigation in 1817–20 and like Freycinet they also wrote a description of a giant-sized squid seen by the crew of the expedition.[60] After Freycinet circumnavigation, they both participated to the circumnavigation led by the French explorer Jules Durmon d'Urville in 1826–29. During this exploration, they, for instance, discovered two specimens of the giant tongan skink, *Tachygia microlepis*, and brought them to Paris. These are the only known specimens of this species, which is now considered to be extinct.[61] Later both advanced in their careers. Quoy, for instance, worked as a professor of anatomy and medicine from the 1820s to the 1830s, and became an inspector general of the Naval Bureau of Medicine and Surgery in the 1840s. Gaimard became known of his study of cholera in the 1830s and he also led his own expedition to Lapland, Spitzbergen, and the Faroe Islands from 1838 to 1840.[62]

Rang was a zoologist but also a naval officer, who was one of the few survivors of the sinking of the French frigate *Méduse* in 1816. The ship sank off the coast of Western Africa near the present-day Mauritania. Most of the hundreds of passengers were succeeded to evacuate to boats and a raft, which, however, was abandoned by boats and drifted away from the shore. Many on the raft were washed into the sea and the ones rebelling were killed by officers. The raft was discovered after 13 days with only 15 people still alive. When the supplies had run low, injured had begun to be thrown to the sea and the castaways also turned to cannibalism.[63] In the 1820s and 1830s, Rang served as a captain on different vessels. In addition to his naval experiences, he was known of his study on mollusc. Rang discovered and named many new mollusc species such as sea hares and land snails. He also wrote a book *Manuel de l'histoire naturelle des mollusques et de leurs coquilles* (1829), in which he mentions that he saw an enormous octopus in the Atlantic Ocean.[64] However, his description makes it clear that he in fact witnessed a giant-sized squid floating on the surface.

Among the sailors, fishermen, and naturalists who encountered enormous squid from the 1800s to the 1850s, some clear conventions that defined their relationship with these squid emerged. However, the understanding of giant-sized squid influenced by the discourses of enormous octopuses emerges only in the works of natural historians. In the descriptions of Péron and Quoy and Gaimard the body of the giant-sized squid acquired a symbolic aspect as they defined it as the fountainhead of mythical narratives. Among sailors, the predominant way to perceive enormous squid was to define them as significant because they were so much than smaller squid. And travelers that crossed the seas during the early nineteenth century often saw squid as insignificant creatures, just one of the many life forms in a diversity of marine animals. In addition to these various ways of understanding enormous squid, fishermen especially saw these squid as fish bait extremely important. In general, a person's vocation defined his or her relationship with giant-sized squid. This is hardly surprising, but it has often been ignored.

First of all, the meanings sizeable squid received in the texts by Péron, Quoy as well as Gaimard, and Rang already show that these animals were likely to be interpreted as monsters. The works of these naturalists indicate that the boundary between the enormous and terrifying octopuses and the giant-sized squid was becoming blurred in the early nineteenth century. For instance, both Péron and Rang thought that the enormous squid they encountered was an octopus. Péron's field notes explicitly say that he first thought the enormous squid he saw near Tasmania in 1802 to be an octopus.[65] In 1807, however, he wrote in his *Voyage de découvertes aux terres Australes* that the giant-sized squid he saw was "an enormous species of Sepia probably the kind of Calmar [Loligo Lamarck]."[66] Péron had changed his mind, but it is impossible to know what led to this. Plausibly, after some consideration, he concluded that the cephalopod was reminiscent of a squid rather than an octopus.

Like Péron, Rang described the enormous cephalopod he witnessed while sailing in the Atlantic Ocean as an octopus.[67] However, it was most likely a sizeable squid, because squid are the only remarkably large animals among cephalopods.[68] Unlike Péron and Rang, Quoy and Gaimard mentioned the enormous squid encountered by the Frecyinet expedition in 1817 as a squid, not an octopus. Strangely, Quoy and Gaimard wrote a lengthy description in which they speculated on the agency and habits of the squid in the light of the supposed agency of an octopus. For instance, they mentioned that if the enormous squid, they discovered had been an octopus, it would have been able to pull sailors from the deck of a ship or sink a small boat.[69]

The above accounts illustrate the significance that the octopus and especially the narratives about enormous octopuses had attained for contemporary natural history. The accounts by Péron, Rang and Quoy and Gaimard, indicate that the discourses of enormous and vicious octopuses that had emerged in the field of natural history in the late eighteenth century had begun to delineate naturalists' characterization of giant-sized cephalopods living in nature.

As an example of the above, the narratives about enormous octopuses influenced how these naturalists described the motion and body of the giant-sized squid they encountered. For instance, Péron compared the way the squid moved its tentacles with the movement of agitated reptiles.[70] His interpretation, in which he implies that the tentacles resemble snakes, was powerfully symbolic. Probably, Péron's representation reflected the natural history discourses that perceived cephalopods as unpleasant animals.[71] In their description of enormous squid, Quoy and Gaimard emphasize the possible strength of its arms,[72] which refer to the belief that giant-sized octopuses attain incredible arm-strength. This belief about octopuses had been reiterated in the context of natural history since Antiquity.[73]

Péron's description of the enormous squid also included a contribution to the speculative debunking of mythical entities with real animals. Like Denys de Montfort and Bosc, who theorized that the Kraken derived from the sightings of giant-sized octopuses,[74] Péron speculated that Pernety's description on massive squid able to sink ships derived from the sightings of squid he saw near Tasmania.[75] In his field notes, he mentions that he even named the squid "The Octopus of Dom Pernety."[76]. Nevertheless, there was a notable difference between Péron's speculation and that of Denys de Montfort and Bosc: Péron based his theory on the sighting of a material entity. This is a clear intimation that the natural-historical understanding of the giant-sized squid at the beginning of the nineteenth century already included a tendency to see them as more than just ordinary sea animals. More unfamiliar to naturalists than the imagined colossal octopus, but similar in structure, the large squid had acquired some of its supposed characteristics and was on the way to becoming a similar repulsive and monstrous entity in the public perception.

The influence of the representations of enormous and vicious octopuses on the descriptions of squid by Péron, Rang, and Quoy and Gaimard is understandable, as the body of the squid does indeed resemble the octopus. In addition, the squid that these naturalists witnessed were undoubtedly more enormous than they had thought possible, not least because contemporary natural-historical treatises had emphasized that only octopuses were capable of attaining remarkable dimensions.[77] In an encounter with an entirely new species, which their vocabulary does not suffice to explain, humans seek a biosemiotic solution, turning to another known animal resembling it to explain its character or meaning.[78]

The understanding of enormous squid by the naturalists discussed above differed markedly from the perceptions of other people who witnessing these animals in a way that had not yet occurred in the late eighteenth century. For example, the account that Joseph Banks wrote of the sizeable squid he had seen in the Pacific Ocean in the 1760s, did not encompass meanings such as those included in the reports of squid by Péron, Rang as well as Quoy and Gaimard.[79] The discourses of enormous and vicious octopuses had not been available in public discussion when Banks wrote his description.

Sailors perceived giant-sized squid entirely differently from the naturalists mentioned above. They saw these animals as incredible and thought-provoking animals, but without attaching meanings that contemporary literature attributed to enormous octopuses. Captain Louis de Freycinet gives us an excellent example:

> On the 4th of December, we saw the remains of an enormous squid devoured by sharks and many birds, passing the ship. A boat was lowered in the sea that brought us some fragments of the squid more than two feet in diameter. Judging by this enormous debris, we concluded that the whole animal must have weighed no less than five or six hundred pounds.[80]

The squid mentioned in the quote is the same individual that Quoy and Gaimard described, but their description differs significantly from Freycinet's. Freycinet wrote a more matter-of-fact account of the squid than Quoy and Gaimard, without the historical meanings attached to enormous cephalopods, and it does not speculate on the possible agency of such animals. However, Freycinet's quote implies an interest in the squid. He would not have mentioned the encounter if he had seen it as wholly insignificant. Perhaps he wrote about the enormous squid because he had sailed extensively and undoubtedly encountered much smaller squid than this one. Whatever the reason, I think it was the size of the squid that aroused Freycinet's interest, just as it did with the whaling captains McKenzie and Roys.

Another example that demonstrates the interest of mariners in the size of enormous squid was the transporting of their remains to zoological institutions such as museums of natural history and zoos. Sailors began to bring carcasses of giant-sized squid to these institutions at the latest in the 1850s. For instance, the papers by Japetus Steenstrup state that the Danish sea captain Vilhelm Hygom delivered the remains of an enormous squid to the Danish Zoological Museum in 1854.[81] These papers mention that Hygom was renowned for his interest in natural history, the reason that he had brought various Atlantic species to this museum.[82] According to the papers by Pieter Harting, a Dutch merchant navy crew brought a body of giant-sized squid, discovered in the stomach of a shark in the Indian Ocean, to the Amsterdam Royal Zoo.[83] These examples indicate that sailors did not simply wonder at enormous squid but saw them as scientifically significant specimens. It is also possible that there was a financial incentive to deliver giant-sized squid to some zoological institutions if they paid for specimens.

Whatever motivated sailors to transport enormous squid to museums and zoos, the act indicates that there had occurred a shift in sailors' perceptions about these squid from the late eighteenth century. During that period, sailors picked up giant-sized squid to use them as fish bait or food, or as trophies. It also emerges from contemporary sources that people traveling on ships and encountering enormous squid, did not necessarily pay any attention to these animals, which is interesting in itself. The circumnavigation made by Freycinet is an excellent example of this attitude to giant-sized squid. In addition to Louis de Freycinet as well as Quoy and Gaimard, other people traveling with the expedition wrote journals that do not mention enormous squid at all. For instance, the writer and explorer Jacques Arago, who participated in the circumnavigation as a drawer, wrote nothing about the squid that the expedition encountered in 1817.[84] Similarly, Freycinet's wife, Rose Marie Pinon de Freycinet did not write a word about the squid in her diary.[85] Arago and Rose de Freycinet's failure to mention anything in their journals about the enormous squid encountered during the expedition means either that they did not see it or that they did see it but thought it unworthy of mention – that is to say, there was nothing out of the ordinary about it.

It must be mentioned about Freycinet's wife Rose de Freycinet that she was a stowaway on the voyage. The story of Louis de Freycinet and his wife was famous in the nineteenth century, because they defied the naval ordinances forbidding females aboard ship. Rose de Freycinet had disguised herself as a man and boarded the ship captained by her husband. This act caused public outrage, which soon turned to sympathy. The navy was powerless to get Rose back and she became, in addition to another Frenchwoman Jeanne Baret, one of the few women who had officially circumnavigated the globe.[86]

Anyway, the way in which the people participating in the Freycinet expedition perceived the enormous squid shows that the natural-historical discourse had begun to attach different speculative and discursive meanings to them. Only the naturalists Quoy and Gaimard were fascinated with the squid, whereas many other crewmembers were either amazed at the unusual size of the squid or thought them a common and therefore insignificant marine animal.

It seems that between the 1800s and the 1850s only fishermen perceived the bodies of enormous squid in the same way as they had in the late eighteenth century, as useful bait to lure fish into their nets or hooks. Admittedly I have discovered only one contemporary source that explains how early nineteenth-century fishermen perceived giant-sized squid, a paper by Japetus Steenstrup which mentions that three fishermen discovered an enormous squid stranded on the coast of the Skagerrak in 1853. Steenstrup's paper implies that these fishermen were amazed at the huge size of the squid, but this delighted them rather than filling them with fear or horror, as it meant lots of bait.[87]

The above perception of enormous squid resembled closely the way in which fishermen in Newfoundland and Iceland understood them in the late eighteenth century, as representing a considerable amount of fish bait: after all, the primary source of livelihood for these people was fishing. As fishermen in different Atlantic locations seemed to take the same attitude to giant-sized squid for a period of over a 100 years, I venture to conclude that the understanding of squid primarily as fish bait was widespread in numerous fishing communities all around the North Atlantic Ocean.

Altogether, people who encountered giant-sized squid from the 1800s to the 1850s perceived them in a variety of ways. It was above all the utilization of the bodies of enormous squid that defined the relationship between these animals and humans during this period. In addition, many people undoubtedly perceived these animals as curiosities because of their size, or alternatively as just another example of the rich marine fauna. Perceiving giant-sized squid in the light of the representations of enormous and vicious octopuses was not common, but this marginal way of describing them emerged in public discussion. The accounts written by natural historians like Péron, Rang and Quoy and Gaimard, in which the presence of octopus discourses was obvious, were referred to in numerous early nineteenth-century natural-historical and popular publications, and they achieved publicity throughout the nineteenth century.[88]

The reason that texts by Péron, Rang, as well as Quoy and Gaimard disseminated knowledge about sizeable squid so successfully was that they were natural history works, their authors considered experts on nature. That they were considered to have expertise was ironic, because their descriptions of enormous squid were fantastical compared to the other contemporary accounts of these animals. Of all the available information about giant-sized squid outside the whaling culture, it was that which was ideal for the construction of the monstrous squid that was communicated to a broader audience.

Especially whalers encountered enormous squid during the early nineteenth century, but other occupational groups such as sailors, fishermen, and the crews of different expeditions, including field naturalists, also witnessed these animals. These people did not perceive giant-sized squid as monsters, as we have been led to believe. Nevertheless, the ways in which different groups perceived enormous squid between the 1800s and the 1850s had changed from the late eighteenth-century. The relationship between sizeable squid and whalers became more intense as whalers realized that carcasses and body parts of giant-sized squid indicated that sperm whales were not far away. In addition, some sailors began to understand enormous squid as scientifically important animals. Fishermen, however, perceived sizeable squid mainly from the perspective of their livelihood – as excellent fish bait – as they had done in the late eighteenth century.

Ironically, it was the naturalists, the smallest group to have close contact with large squid (albeit usually dead ones), that adopted the most distorted perception of them. Péron, Rang, Quoy and Gaimard and the whaling surgeon Thomas Beale were inspired by both late eighteenth-century and contemporary representations of enormous octopuses, and because they became the most esteemed authors who wrote about enormous cephalopods their views contributed most to the public understanding of these animals.

Notes

1 The habit of sperm whales to feed on giant-sized squid appears in several historical sources, but also in the articles written by biologists during recent decades. For the biological sources see, e.g. Clarke 1955; Gaskin & Cawthorn 1967; Clarke et al. 1993; Evans & Hindell 2004.

2 See, e.g. Dolin 2007, 205–52; Smith et al. 2012.

3 See Davis et al. 1997; Dolin 2007. The British sperm whaling fleet began to disappear from the seas during the first half of the nineteenth century. See Dolin 2007, 220; Clayton 2014.

4 Dolin 2007, 205–52. See also Benn 2002; Rozwadowski 2005, 43.

5 Sperm whaling did not end in the 1850s, although the decline of the whaling industry was noticeable. Dolin states that American sperm whaling began to decline around the 1880s. Dolin 2007, 335–41.

6 As sperm whaling was so profitable, the sperm whale population declined from the era before commercial whaling in the eighteenth century by approximately by 29 per cent. Dolin 2007, 240–52, 282–96; Taylor et al. 2008; Smith et al. 2012, 1.

7 See Beale 1839, 62–69; Melville 1922 [1851], 350–52.

8 Whaling authors wrote various significant books and manuscripts between the 1820s and the 1830 that are not discussed in this section. For instance, the English Arctic explorer, clergyman and whaler William Scoresby published his influential *The Northern Whale-Fishery* in 1820, the Nantucket first mate Owen Chase, part of the crew of the famous *Essex* destroyed by a large sperm whale, wrote the *Narrative of the most extraordinary and distressing shipwreck of the whale-ship Essex* in 1821, William Lay's and Curys M. Hussey's *A Narrative of the Mutiny, on Board the Ship Globe, of Nantucket, in the Pacific Ocean, Jan. 1824* (1828) was also a renowned piece of whaling literature, although it mainly concerns the mutiny, and the novel *Miriam Coffin; or, The Whale-Fishermen: A Tale* (1834) by Joseph C. Hart was the first whaling novel. Scoresby 1820; Chase 1821; Hart 1835 [1834]; Lay & Hussey 1828.

9 Druett 2001, 149.

10 Rozwadowski 2005, 44–46.

11 See Parker 1996; Sealts 1998; Druett 2001, 299; Burnett 2007, note 17 on pages 101–02, 113.

12 Bennett 1840b, 175; Cheever 1850, 113.

13 See Parker 1996; Sealts 1998; Druett 2001, 299; Burnett 2007, note 17 on pages 101–02, 113.
14 Maury 1853, 292–319.
15 Maury 1853, 293, 297, 311. According to historian D. Graham Burnett, Post's work was written sometime in the period 1838 to 1849. See note 20 in Burnett's book. Burnett 2007, 103.
16 See e.g. Burnett 2007, 109; Clayton 2014, 41; Adler 2015.
17 I have outlined the massive number of logbooks to the sampling, which includes eleven logbooks written between the 1820s and 1860s. These whaling logs were all written aboard American whalers and they are archived in the collections of the Nantucket Historical Society and The New Bedford Whaling Museum. The names of the ships and when they voyaged are as follows: Atkins Adams 1858–59, Betsey Williams, 1851–54, California 1849–51, Edward Carry 1858–64, Harvest 1848–53, Harvest 1853–57, Maria 1822–25, Mary 1843–45, Mary 1843–47, Navigator 1841–45, Potomac 1845–49, Susan 1846–51. See KWM 370; ODHS 485, 698; NHA, MS 220 – Ships' logs 75, 106, 146, 164, 205, 226, 345.
18 See NHA, MS 220 – Ships' logs 75, 106, 164, 205, 226; KWM 370; ODHS 485.
19 NHA, MS 220 – Ships' logs, Log 132.
20 This entry is dated February 10, 1849: "saw plenty of squid or whale food as it is commonly called". ODHS 698.
21 NHA, MS 220 – Ships' logs, Log 345.
22 Maury 1853, 297.
23 Ritvo 1987, 16–17.
24 Maury 1853, 293.
25 Maury 1853, 311.
26 Bennett 1840b, 175.
27 See Bennett 1840a, 1840b; Anderson & Rice 2006.
28 Beale 1839, 62–69.
29 ibid.
30 See e.g. Vincent 1949, 225–27; Otter 2013, 79–80.
31 Beale's fifty-eight page booklet had a long title: *A Few Observations on the Natural History of the Sperm Whale, with an account of the Rise and Progress of the Fishery, and of the Modes of Pursuing, Killing, and "Cutting In" that Animal, with a List of its Favourite Places of Resort*. According to Joan Druett, this booklet achieved such popularity that in 1839 it led to the publication of the *The Natural History of the Sperm Whale*. Druett 2001, 297–98.
32 See Beale 1835.
33 Beale refers to various sources in his book when he describes cephalopods. He cites the eighteenth-century writings by Henry Baker, which concern mainly octopuses. In addition, he cites Swediaur's article about the ambergris and the marking in the travel journal of Joseph Banks in which Banks describes the sizeable squid he had witnessed in the Pacific Ocean in the 1760s. Beale also cites the nineteenth-century British natural-historical writings about cephalopods by Peter Mark Roget and Richard Owen, in which Owen describes the squid discovered by Banks as threatening Polynesian pearl divers. In addition to these, he refers to the writings of the renowned French malacologist Alcide d'Orbigny. Furthermore, one of Beale's sources is the travel journal *Excursions in the Mediterranean* (1835) by Richard Grenville, Second Earl Temple, in which Grenville describes octopuses as horrible animals. Beale 1839, 55–69.
34 Bennett 1840b, 175.
35 For instance, Beale explained the term *cephalopoda* to be a synonym for the words *Sepia Octopus* and *Sea Squid*. Beale 1839, 55.
36 Rozwadowski 2005, 40.
37 See, e.g. "Sepiadae" 1841, 251; *An Essay of the Credibility of the Kraken* 1849, 24–25; "More Odd Fish" 1849, 381–82; Gosse 1854b, 62–63; Gosse 1861, 235–37; Goodrich

1859, 498–99; "A Plea for a Monster" 1860, 190–91; Kearley 1862, 98–99; Kearley 1878, 98–99; Knight 1867, 69–70; "The Devil-Fish" 1874, 146; Lee 1875, 42–44; Vincent 1875, 235; Buel 1887, 70–72.

38 Temple 1835, 139–40.

39 Beale 1839, 68.

40 ibid.

41 See, e.g. "Sepiadae" 1841, 251; Gosse 1854b, 62–63; Gosse 1861, 235–37; Goodrich 1859, 498–99; "A Plea for a Monster" 1860, 190–91; Kearley 1862, 98–99; Kearley 1878, 98–99; Knight 1867, 69–70; "The Devil-Fish" 1874, 146; Lee 1875, 42–44; Vincent 1875, 235; Buel 1887, 70–72.

42 See Image 5.

43 Vincent 1949, 226.

44 Burnett 2007, 101.

45 Melville signed aboard a whaling vessel, the *Acushnet*, in 1841 and spent four years on the seas. He left the *Acushnet* on July 1842, when the ship arrived at Nukahiva Bay. Melville soon boarded another whaling vessel, the *Lucy Ann*, in August 1842. While he sailed aboard this ship, Melville took part in a mutiny and he was jailed in Tahiti. In October 1842, he escaped to the island of Mo'orea northwest of Tahiti, where he spent his time as a beachcomber. In November, Melville signed on the Nantucket whaling vessel *Charles & Henry* and he was discharged in the Hawaiian Islands in May 1843. After four months, Melville joined the frigate *USS United States* as an ordinary seaman. He returned to Boston on October 3, 1844. See e.g. Howard 1951; Parker 1996.

46 Melville 1922 [1851], 352.

47 See, e.g. Andriano 1999, 7; Tiffin 2014, 156.

48 See, e.g. White 1980.

49 See, e.g. Ellis 1999, 5, 133–34; Ellis 2006 [1995], 241; Tiffin 2014, 155–56; Adamowsky 2015, 84–85.

50 Vincent 1949, 225–27.

51 Numerous publications explaining Kraken as enormous octopus appeared during the early nineteenth century. See, e.g. Bosc 1801, 36; Denys de Montfort 1801–02, 256–412; Oken 1815, 335–44; Cloquet 1830, 328–31; Hamilton 1839, 330–36.

52 Howard P. Vincent argues that Melville contributed to Beale's squid description when he added the Kraken in his book. Beale undoubtedly influenced Melville's decision to compare Kraken with giant-sized squid, but this impact was indirect, as Beale's book includes nothing about the Kraken. See Beale 1839; Vincent 1949, 225.

53 See, e.g. Cartwright & Baker 2005, 156.

54 See, e.g. Aldrich 1968.

55 See, e.g. Freycinet 2003 [1817–20], xiv.

56 See, e.g. Freycinet 2003 [1817–20], xvi; McCarthy 2005.

57 Freycinet 1827, 27.

58 See, e.g. Steenstrup 1857; 1898; Harting 1861.

59 See Duyker 2006; Jangoux et al. 2010, 265–66.

60 Both Quoy and Gaimard were French naval surgeons, who also had skills in natural history. Watters & Koestenbauer 2010, 34–36.

61 See, e.g. Ineich & Zug 1996.

62 Saunders 2012, 29–30.

63 See, e.g. McKee 2000 [1975].

64 Sander Rang is the accepted abbreviation of Rang's whole name "Paul Charles Léonard Alexandre Rang Des Adrets." Richemond 1906, 264–66.

65 Jangoux 2004, 15–16. I use as my source Michel Jangoux's transcription of Péron's manuscripts, which he published in the *Annales du Musée du Havre*. The archives of the Muséum d'histoire naturelle du Havre have the original manuscripts in their collections. See Jangoux 2004.

66 […] une énorme espèce de Sépie, vraisemblablement du genre Calmar [Loligo, Lamarck] […]. Péron 1807, 216.
67 Rang 1829, 86.
68 In the light of modern biology, the cephalopod that Rang described as the size of a barrel was most likely a squid, as the largest known octopuses arm span is unlikely to exceed 4 meters. Jereb & Roper 2010, 6; Jereb & Roper 2016, 6.
69 Quoy & Gaimard 1824, 411–12.
70 Péron 1807, 216; Jangoux 2004, 15.
71 As I mentioned in Chapter 2, the French naturalist Valmont de Bomare had highlighted the unpleasantness of cephalopods in the mid-eighteenth century.
72 Quoy & Gaimard 1824, 411.
73 The strength of octopuses' arms was a widely repeated fable among ancient and early modern naturalists. Especially Aldrovandi made the belief about the strength of octopuses famous by claiming that these animals could defeat lions easily because of their incredible strength. See Aldrovandi 1606, 7–8. See also Plin. Nat. 9.90–93; Belon 1553, 318–33, 337–39; Rondelet 1554, 506–19; Gesner 1604 [1558], 491–97, 737–53; Jonston 1657, 4–9.
74 Bosc 1801, 36; Denys de Montfort 1801–02, 386–411.
75 Péron 1807, 216; Jangoux 2004, 15–16.
76 In French, ”Poulpe de Dom Pernety.” Jangoux 2004, 16.
77 The conception that squid could grow large did not emerge in natural-historical thought before the 1830s, when Alcide d'Orbigny began to study squid and published, together with André Étienne d'Audebert de Férussac, the *Histoire naturelle générale et particulière des céphalopodes acétabulifères vivants et fossiles* (1835–48). See Férussac & d'Orbigny 1835–48.
78 Maran 2015, 470.
79 Banks 1896 [1768–71], 65.
80 Le 4 décembre, nous vîmes passer près du bord les restes d'un calmar énorme, que des requins et de nombreux oiseaux étoient à dévorer. Une embarcation mise à la mer en rapporta quelques fragmens de plus de deux pieds de diamètre. A en juger par ces énormes débris, nous dûmes penser que l'animal entier ne pesoit pas moins de cinq à six cents livres. Freycinet 1827, 27. I have translated the quote.
81 Steenstrup 1857, 183; Steenstrup 1898, 413; Steenstrup 1962, 18, 259.
82 Steenstrup 1857, 183; Steenstrup 1962, 18.
83 Harting 1861, 1.
84 See Arago 1823.
85 See Freycinet 2003 [1817–20].
86 See Freycinet 2003 [1817–20].
87 Steenstrup 1898, 420–21; Steenstrup 1962, 268.
88 See, e.g. Férussac & d'Orbigny 1835–48, LII; Harting 1861, 8–9; "Poulpe géant observé entre Madère et Ténériffe." 1861, 1267; Figuier 1863, 292; Figuier 1866a, 464; Figuier 1866b, 464; Mangin 1864, 288; Mangin 1868, 287, 290; Landrin 1867, 43; Spicer 1869; Landrin 1870, 37–38; Figuier 1872, 486; Packard 1873; Landrin 1875, 54; Lee 1875, 107; Lee 1883, 37–38; Buel 1887, 77.

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4 The enormous squid, zoology, and the public discussion

As noted in the previous chapter, society and culture changed a lot in America and Europe at the beginning of the nineteenth century. However, many changes occurred also in the field of science. One significant change was related to the identity of scientists when the English polymath William Whewell coined the term "scientist" in 1833. In the first half of the nineteenth century, several major scientific breakthroughs were also made in almost every field of science.

Several discoveries were made in the field of life sciences alone. Major developments were done, for instance, in the field paleontology as more and more fossils began to be found in different parts of the world. One of the most significant discoveries were made by British fossil collector Mary Anning. Her discoveries were significant evidence for the extinction, which, even at the beginning of the nineteenth century, was still an impossible idea for many scientists. The discovery of prehistoric fossils changed science in many ways and also the previous understandings of the history of Earth. Previous conceptions of the classification of animal and plant kingdoms were also decisively altered. The French naturalists Georges Cuvier and Jean-Baptiste Lamarck changed the earlier comparison of the appearance of living beings to focus on comparison of their anatomy and body functions at the turn of the eighteenth and nineteenth centuries.

More natural historians also embarked on the journey of expeditions. In addition to the Péron, Gaimard, and Quoy mentioned in the previous chapter, several other naturalists travelled the world seas, leaving their mark on history. For example, Alexander von Humboldt travelled widely in America in 1799–1804 and made various scientific notions during his journey. He was one of the first to suggest that lands around the Atlantic Ocean were once joined to each other. Charles Darwin also travelled on *HMS Beagle* in 1831–36 and based on his observations during this voyage he published the book *The Origins of Species* in 1859, introducing the idea of evolution by natural selection.

The new way of understanding the history of Earth and the classification of species as well as the travels of natural scientists around the world also contributed greatly to the study of molluscs. At the beginning of the nineteenth century, malacology was differentiated as a branch of zoology, which focuses on the study of molluscs. This was of great importance to the study of the giant-sized squid. This chapter concerns two parallel developments in the transatlantic cultural conception

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of the enormous squid: the growth of scientific knowledge of this squid and the increasing natural historical and public association of squid with monstrousness and dangerousness for humans.

The concept of giant-sized squid emerges in the field of zoology

The concept of giant-sized squid emerged in the natural-historical discussion gradually during the early nineteenth century. A few malacologists, zoologists specializing in the study of mollusks, mentioned the possible existence of such animals already during the 1820s, but it was not until the 1830s and 1840s that the esteemed monograph *Histoire naturelle générale et particulière des céphalopodes acétabulifères vivants et fossiles* (1835–48) by the French malacologists André Étienne d'Audebert de Férussac and Alcide d'Orbigny argued that enormous squid must inhabit the depths of the seas.[1] Both Férussac and d'Orbigny lived eventful lives. Férussac fought in the Napoleonic Wars and d'Orbigny made almost eight-year long voyage to South America. Alongside these events, they considerably developed the study of molluscs.

In spite of Férussac's and d'Orbigny's argument about the existence of giant-sized squid, many recently written studies and popular books about the giant squid either state or imply that the early nineteenth-century naturalists were skeptical about the existence of giant-sized squid or any other enormous cephalopods.[2] In all likelihood this interpretation contributed to Bernand Heuvelmans *Dans le sillage des monstres marins*, in which he says that naturalists avoided researching enormous squid during the early nineteenth century as these animals were understood as mythical and thus unworthy of study by serious zoologists. Heuvelmans argues that museums and different scientific collections contained many carcasses of giant-sized squid during the early nineteenth century, but the naturalists hardly discussed them.[3] It is true that the squid discovered by Joseph Banks from the Pacific Ocean in the 1760s was still stored in the collections of the Royal College of Surgeon in London.[4] Similarly, many other carcasses of sizeable squid found during the previous centuries as well as recently were preserved around Europe. For instance, the enormous squid discovered during the Freycinet's circumnavigation was stored in the collections of the Museum d'Histoire Naturelle in Paris from the 1820s onwards.[5] Heuvelmans is correct in stating that naturalists hardly spoke about these carcasses, but there is no reason to conclude that this silence resulted from their belief that the large squid was a mythical animal. Instead, they understood both enormous and small squid largely as insignificant animals.

Heuvelmans has a tendency to anachronize: he assumes that early nineteenth-century naturalists understood giant-sized squid as mythical creatures because these animals were seen as monsters during the twentieth century. In addition, the concept of the giant squid in the early 1800s is itself anachronistic. Heuvelmans asks in his treatise why naturalists did not classify the giant squid already during the early nineteenth century when various collections contained material evidence of enormous squid,[6] but we do not know that those squid belonged to Steenstrup's genre *Architeuthis,* the giant squid, which in any case was not classified as such by him until the 1850s. The way in which Heuvelmans assumed that the concept of the giant squid was universal and substantially the same as through the ages and across different cultures explains his argument that naturalists perceived giant-sized squid as a mythical animal. Heuvelmans is assuming that the early nineteenth-century zoologists knew that the enormous squid preserved in various collections of the early 1800s belonged to the species of giant squid that was also the mythical Kraken.

Only a small number of naturalists specialized in mollusc studies in the early 1800s, but many of these implied that squid are vacuous animals and that only the octopuses are remarkable among cephalopods. It seems that the late eighteenth-century naturalists' habit of perceiving the squid as an insignificant animal had a strong influence on their successors' misunderstanding of these animals in the early nineteenth century. Because of the general unawareness about the squid, study of it developed slowly and did not become systematic for some decades. The empirical study of the squid was also difficult because comparable material was scarce. Consequently, the zoologists were silent about enormous squid not because they were thought mythical, but because they thought them uninteresting, and the few malacologists who may have wanted to say something about giant-sized squid did not know enough of these animals to do so.

The book by Férussac and d'Orbigny, which practically created the methodological basis for the systematic study of squid of all sizes, was compiled in various parts, and published in 1835–48.[7] As the marine biologists Annie Tillier and Renata Boucher-Rodoni mention, the contribution of d'Orbigny to this work is more substantial than Férussac's because the latter died in 1836. According to Tillier, Férussac intended at first to write a massive work on Mollusca, in which he would include his and other writers' monographs about the subject. Férussac asked d'Orbigny to collaborate with him on the part concerning the cephalopods in 1825. D'Orbigny started the project but he left on a voyage to South America in 1826 and did not return for eight years. Thus, the first part of the book was not distributed until 1834–35. Férussac died in 1836, and d'Orbigny continued to work on the manuscript, focusing merely on cephalopods.[8] Their monograph was a vital contribution to the study of cephalopods as it introduced not only the first essential compilation of cephalopods but also numerous yet unpublished details about the morphology and life of these animals.[9] Its significance is clear from the following quotation:

> We see that it is impossible to doubt that very large species [of cephalopods], perhaps belonging to our genera *Ommastrephes* and *Philonexis*, inhabit all the seas and are still unknown to science. These facts give, in our opinion, the explanation for the popular exaggerations, and not only support our view on the increase of the whole life of the cephalopods, but also, by the rare appearance of these giant-sized species, give us the proof that deep-sea areas are home to a large number of animals that are still unknown to us, and that present completely new forms.[10]

The quote, written by d'Orbigny,[11] includes various remarkable details that reveal how zoologists perceived enormous cephalopods during the first part of the nineteenth century. First of all, it challenges the recent studies of the giant squid which argue that the early nineteenth-century naturalists understood giant-sized cephalopods as fabulous creatures.[12] The quotation explicitly implies that the renowned malacologists believed that enormous cephalopods inhabited the still unknown depths of the seas. The quote also tells us that d'Orbigny had already classified classes of cephalopods that included sizeable species. Moreover, d'Orbigny suggests that these animals, both because of their size and their unknown habitat, were the explanation for the "popular exaggerations," by which he can only have meant the narratives of colossal octopuses that had begun to appear in the natural-historical and popular publications since the late eighteenth century.[13]

D'Orbigny mentions two taxonomical terms *Ommastrephes* and *Philonexis*. The *Ommastrephes* was a genre for sizeable squid living in the open sea and the *Philonexis* for large octopuses.[14] Both genres were based on d'Orbigny's observations made during his voyage to South America in 1826–33. The authorities of the Muséum national d'Histoire naturelle decided to send d'Orbigny to South America in the 1820s with the English company that was formed to exploit the mines of Potosi in Bolivia. D'Orbigny left France in 1826 and visited Brazil, Argentina, Paraguay, Chile, Bolivia, Peru, Ecuador and Colombia before returning to France in 1833. During his journey, d'Orbigny amassed an enormous collection of 10,000 zoological specimens.[15]

As a result of this journey, d'Orbigny classified also the most sizeable squid seen yet in 1835, which he placed among the *Ommastrephes*. He named this squid *Ommastrephes gigas*.[16] The suffix of the name, Gigas, undoubtedly refers to the size of the squid. Today this squid is better known as the Humboldt squid.[17] As d'Orbigny interpreted this squid, belonging to his *Ommastrephes*, as a gigantic squid, he assumed that all the yet unknown and larger squid would also have to belong to this genre. This assumption very probably had great impact on the later study of giant-sized squid, because malacologists tried throughout the middle decades of the nineteenth century to place other enormous squid in this same genre.[18]

Nevertheless, as above quotation indicates, although the epochal study by Férussac and d'Orbigny was founded on empirical research, it also included speculation. D'Orbigny, for instance, suggests that cephalopods yet unknown to science belonged to *Ommastrephes* and *Philonexis*. D'Orbigny's decision to speculate beyond probability seems odd. He emphasizes in the preface of the book that the octopuses of Denys de Montfort and Pliny do not exist yet suggests later in his work that enormous octopuses do exist.[19] D'Orbigny probably wanted to distance his work from previous wild theories about unknown and enormous cephalopods: he was not unwilling to speculate, but wanted readers to believe that his speculation was based on reasoning from what he had discovered, not on the theories of earlier natural historians. D'Orbigny did not deny the existence of giant-sized cephalopods, but he did aim to question the agency of the giant-sized octopuses, for instance, sink ships, as presented by the likes of Denys de Montfort, and rejected the idea of immeasurably big creatures living in the depths of the seas such as the Kraken and *Microcosmus marinus*. By so doing d'Orbigny attempted to free his own speculations about enormous cephalopods from mythological associations and thus make them more trustworthy.

The way in which d'Orbigny and other early nineteenth-century naturalists criticized the agency of enormous octopuses in Denys de Montfort's treatise provides one explanation of why modern studies about the giant squid suggest that nineteenth-century naturalists understood sizeable cephalopods as fabulous creatures.[20] Their criticism may seem like a denial of all enormous cephalopods, but they simply attempted to break away from to the most vivid speculation about these animals.[21] Arguably, none of the contemporary zoologists denied the existence of giant-sized cephalopods.

Speculation about the existence of sizeable cephalopods that were as yet unknown to science were not, however, the only conjectures about giant-sized squid in Férussac and d'Orbigny's book. D'Orbigny's hypothesized that his *Ommastrephes gigas* could explain Pernety's eighteenth-century narrative of the enormous squid able to sink ships.[22] Thus, he ended up trying to debunk fictional entities in the same way as Bosc, Denys de Montfort and especially Péron had before him. Whereas Denys de Montfort and Bosc had referred to historical writings about octopuses, Péron and d'Orbigny referred to sizeable squid that they had witnessed with their own eyes to explain Pernety's story.[23]

Whether Péron and d'Orbigny were on right track or not, d'Orbigny's reinforcement of Péron's suggestion that a sighting of an enormous squid could have inspired Pernety's squid narrative gave the sizeable squid a meaning as an animal that could inspire tales of mythical creatures. The significance of the squid grew during the early nineteenth century, but so too did the tendency to attribute different meanings to them. D'Orbigny's interpretation of the *Ommastrephes gigas* as the paragon of Pernety's squid narrative also indicates that the enlightenment mission to destroy myths persisted as a project of cephalopod studies during the early nineteenth century.[24] Thus the zoological researchers of that period, most likely unintentionally, furthered the association of enormous squid with monstrous discourses.

D'Orbigny's idea that enormous cephalopods lived in the depths did not come out of the blue: it came about from a succession of events that occurred from the late eighteenth century to the 1830s. One of the most important was the paradigmatic shift that revolutionized the Linnaean system at the turn of the nineteenth century. The paleontological discoveries of enormous belemnite fossils also impacted on d'Orbigny's theory. In addition, the speculation about cephalopods influenced his and Férussac's research as it emphasized the existence of giant-sized cephalopods. Lastly, the accounts that Péron, Rang, Quoy, and Gaimard had written about the squid they witnessed during their voyages had the most direct influence on d'Orbigny's speculation.

The shift in the zoological paradigm, occurring from the 1790s to the 1810s, which was primarily the handiwork of the French naturalists Georges Cuvier and Jean-Baptiste Lamarck, changed the taxonomic system so that it was based on the anatomy of animals rather than their structural similarities.[25] This was a period when Paris was the center of zoology, especially regarding mollusks. One of the most significant centers of natural history, especially regarding the study of molluscs, was the Muséum d'Histoire Naturelle in Paris. The museum was formally founded during the French Revolution, but its origins lie in the Jardin du Roi, established in the seventeenth century. After the Napoleonic Wars ended in 1815, the museum became a vital center for naturalists around the world.[26]

Especially Cuvier's work brought about an obvious epistemological shift towards modern biology.[27] The reform meant that the previously entirely vertebrate-centered zoology began to take account of various other animals such as the squid. Many naturalists of the previous century had considered the squid an insignificant animal, and this had continued into the early nineteenth century. For instance, the British naturalist George Shaw explicitly mentions in his *Zoological Lectures Delivered at the Royal Institution in the Years 1806 and 1807* (1809) that the squid is the most unremarkable of all cephalopods, the most significant being the octopus.[28] He wrote at just that time when a gradual growth in the number of zoologists interested in "insignificant animals" began.

Cuvier and Lamarck also made remarkable changes to the taxonomy of cephalopods at the turn of the nineteenth century. Cuvier, for instance, suggested the reallocation of the genre *Sepia* to the order of *Cephalopoda*,[29] whereas Lamarck proposed that all the octopuses, the squid (loligo) and the cuttlefish (sepia) should be considered genera that include various species. Thus, the Linnaean species *Sepia loligo* became a genus of *Loligo* including four new species of squid.[30] This provided the catalyst for development of the zoological study of cephalopods that was to continue thereafter.[31]

The progress in the study of cephalopods and the expansion of malacology mentioned above accelerated inquiry into enormous squid. In their analysis of Joseph Bank's sizeable squid in the 1810s, the British zoologist William Leach and the German zoologist Hinrich Lichtenstein did not show any special interest in its size. Only Lichtenstein mentions that Banks's squid was six times larger than the similar squid with claws he had studied in Germany.[32] It is reasonable to conclude Leach and Lichtenstein did not regard the size of the squid as significant. Their writings reveal more interest in the claws of Banks's squid.[33] This is understandable, as both Leach and Lichtenstein studied the squid from the perspective of comparative anatomy, and the claws on that squid were an extraordinary feature, given that many squid species are clawless.[34]

During the 1820s, the size difference between various squid species increasingly attracted the attention of malacologists. For instance, the French malacologists Henri Marie de Blainville and Férussac stated in their encyclopedia articles, written in 1823, that there were small as well as very large squid in the sea.[35] Moreover, in the review that he wrote of the published account of Quoy's and Gaimard's report of their zoological discoveries during the Freycinet circumnavigation Férussac urged sailors to take note of enormous squid.[36] Probably, d'Orbigny's insistence that yet unknown species of giant-sized squid inhabit the sea contributed to this development on the field of cephalopod studies. Thus, developments in the field of malacology and the increasing amount of information available about different squid that encouraged malacologists to show more interest in them.

It is curious that modern studies about the giant squid have not mentioned a word about the influence of the early nineteenth-century paleontology on zoologists' understanding of enormous squid. Arguably, the discovery of giant-sized belemnite fossils, the extinct order of cephalopods superficially resembling the squid, had a powerful impact on contemporary zoologists' perceptions of the giant-sized squid of their own era.[37] Evidence of this is that, as Walter Etter states, Cuvier and Lamarck placed belemnites in their taxonomies within the order of cephalopods without further question.[38] For instance, the 1813 discovery of an enormous belemnite by the German paleontologist and politic Ernst Friedrich, Baron von Schlotheim, undoubtedly drew the attention of contemporary zoologists from the 1810s to the 1820s.[39]

The influence of enormous belemnite is noticeable, for instance, in the review that Férussac wrote of the book of Quoy and Gaimard describing the zoological observations they made during the Freycinet circumnavigation. Férussac explained that the remains of giant-sized squid the expedition encountered, "represent the enormous cephalopods, the first inhabitants of the seas in primeval times."[40] Férussac's quote is clear evidence that the paleontological discoveries of the extinct and giant-sized cephalopods influenced at least some contemporary zoologists' understanding of enormous squid. The fossils confirmed that such animals had lived on the Earth, and might still do so.

D'Orbigny's statement about the existence of giant-sized squid was not, however, a direct consequence of the developments in the field of malacology or the paleontological discoveries. He was influenced by the concept of the enormous and vicious octopus that had emerged in the late eighteenth century. According to the contemporary natural-historical literature, giant-sized octopuses appeared in various early nineteenth-century treatises by naturalists from France, Germany, Great Britain, Italy and the United States.[41] The number of studies focusing entirely on sizeable octopuses, alongside Sander Rang's account of the giant-sized octopus that was actually a squid,[42] surely contributed to d'Orbigny's speculation about enormous octopuses. The lively discussion about enormous cephalopods probably encouraged d'Orbigny to theorize the existence of giant-sized squid, especially as the esteemed naturalists Péron, Quoy and Gaimard had written eyewitness accounts of such an animal.

The accounts of Péron, Rang and Quoy and Gaimard were the most important sources for d'Orbigny, as he explicitly refers to them and states that he had confidence in the observations of these naturalists.[43] D'Orbigny was the first malacologist to refer to these accounts after they occurred,[44] as Cuvier and Lamarck did not mention the enormous squid Péron witnessed near Tasmania in any of their publications, although they had both asked him to pay special attention to molluscs during his voyage.[45] Cuvier and Lamarck saw Péron's description of the squid as too imprecise to be mentioned in their treatises.[46] In addition, classification of Péron's squid became more difficult after he died in 1810, as he was not available to explain it.[47] The enormous squid discovered by Quoy and Gaimard received little attention in malacological circles before Férussac's and d'Orbigny's book, although they had brought the squid to Paris.[48] Probably the condition of the carcass made it unfit for study or classification, especially when malacology was in its infancy: as Louis de Freycinet wrote, the squid had been ripped apart by sharks and birds before it was found.[49]

So d'Orbigny speculated the existence of enormous squid, which he did with reference to the accounts of Péron and Quoy and Gaimard and under the influence of early studies in malacology, paleontological discoveries and the lively discussion about enormous octopuses. He was following a tradition of cephalopod studies since the late eighteenth century. Nevertheless, d'Orbigny's theories differed from previous ones in that that they did not include any speculative material about the agency of these animals.

Early zoological attempts to describe enormous squid as an evil animal

Among the different texts mentioning giant-sized squid during the early nineteenth century, there is only one natural-historical writing that explicitly describes giant-sized squid as a terrifying animal that is dangerous to humans. The esteemed British natural historian and paleontologist Richard Owen was its author. Today, Richard Owen is especially renowned for his contribution to paleontological research and for coining the term *Dinosauria*. He was also one of the most outspoken criticizers of Darwin's evolution theory by natural selection.[50]

The account appeared in *The Cyclopædia of Anatomy and Physiology* in 1836, and it concerned the squid that Joseph Banks had discovered in the 1760s. Owen had made an anatomical inquiry into this squid, preserved in the Hunterian collection of the Royal College of Surgeons, when he worked there, and this text was based on it.[51] Owen argues that Banks' squid habitually attacked Polynesian pearl divers. To illustrate "the formidable nature" of this squid, Owen requested readers to imagine themselves as victims in its grasp.[52] Owen's description was to make a remarkable impact and play a large part in the monsterization of giant-sized squid.[53]

As mentioned earlier, representing the sizeable squid as a frightening animal was not common during the early nineteenth century. So why did Owen define enormous squid as dangerous and evil-minded creatures, characteristics previously ascribed only to octopuses? The main reason for this was the gigantic size of the squid compared to smaller squid. Owen ended up in portraying giant-sized squid as a treacherous and vicious creature because he was not able to tell the difference between sizable squid and enormous octopuses. Like Péron and Quoy and Gaimard, Owen saw sizeable squid as having more in common with enormous octopuses than the smaller squid, but he went further than his predecessors by inextricably entangling the discourses of the two large species. The influence of the enormous octopus discourses was indirect in the French works, but Owen visualized Banks's squid and wrote convincingly of its formidable nature.[54]

Recent studies of the giant squid have failed to investigate the monsterization of the enormous squid during the early nineteenth century because they were not looking for it: as noted earlier, they began with the assumption that these animals were and always had been regarded as sea monsters, even as the Kraken.[55] However, enormous squid were not understood as equivalent to the Kraken in the first part of the nineteenth century. The first source which mentions the Kraken in the same context as a giant-sized squid is Melville's *Moby-Dick,* which appeared in 1851.[56]

Although from today's perspective the mythical Kraken seems to have been associated with the giant squid for a long time, it was not until the beginning of the nineteenth century that people began to identify Kraken as an octopus.[57] Even so, this understanding of the Kraken was by no means widespread at that time. In some works, people perceived Kraken as an individual entity without any resemblance to any known animal, and in others as a synonym for the sea serpent or other large sea animal.[58] For instance, Tennyson's famous poem *Kraken* (1830) has been widely interpreted as referring to the giant squid or enormous cephalopod during recent decades,[59] but Tennyson refers directly to Pontoppidan's account of Kraken, which represents this creature as its own entity without any resemblances to a member of the animal kingdom. Nevertheless, the perception that the Kraken was an octopus grew during the early nineteenth century.[60] The first illustrations of Kraken appeared during the 1830s, and in them it was depicted either as an octopus or as a creature that has no equivalent in the animal kingdom. The understanding that Kraken meant the enormous squid did not became general until the last decades of the nineteenth century.

PLATE 30

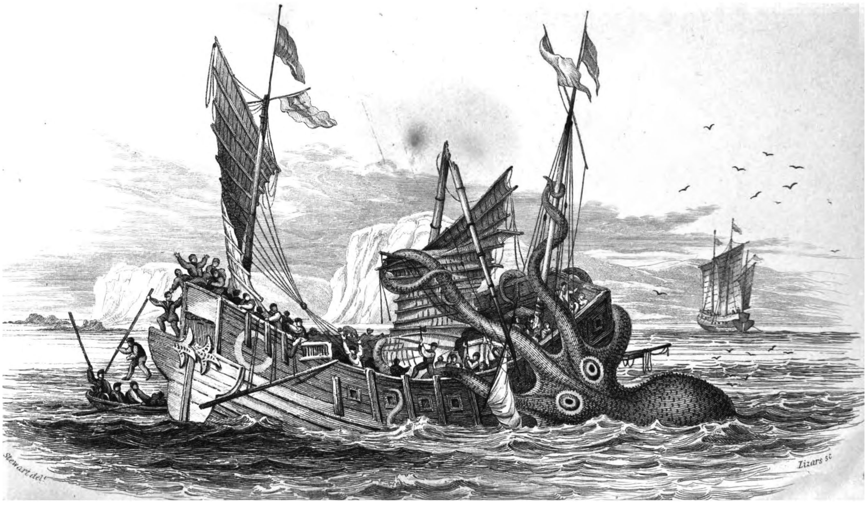

Stewart del.
Lizars sc.

Figure 4.1 Kraken depicted as an enormous octopus in Robert Hamilton's *The Natural History of Amphibious Carnivora* (1839). The depicted octopus is identical to that in the illustration of the Poulpe colossal in Denys de Montfort's book.

Source: Hamilton 1839, Plate. 30.

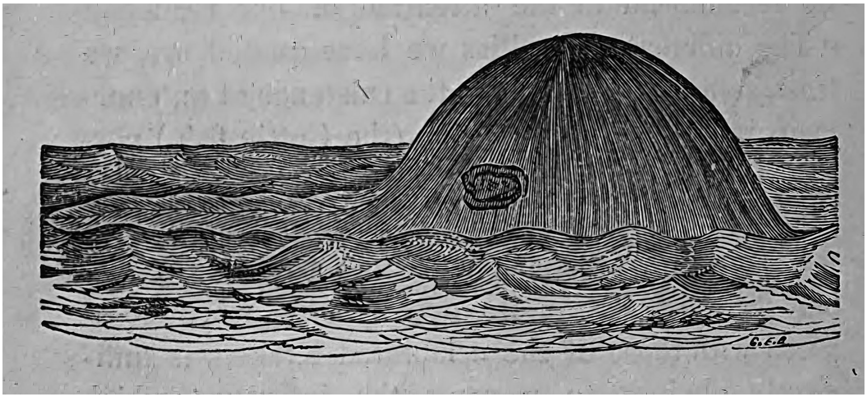


Figure 4.2 The illustration of the unidentified being seen in the Atlantic Ocean in 1834 and defined as Kraken.

Source: Hamilton 1839, 336. The Thomas Fisher Rare Book Library, University of Toronto.

The only remarkable feature associated with the squid during the early nineteenth century was the concept of the "flying squid." This name derives from the ability of some large squid to glide out of the water.[61] Naturalists rejected the flying squid as one of the unbelievable stories mentioned in the accounts of Pliny until the 1830s, when Alcide d'Orbigny and the whaling author Frederick Bennett popularized the existence of these squid in their works.[62]

The description of giant-sized squid by Owen was arguably an aberration when it appeared; as noted above, the majority of naturalists understood the squid, small and enormous, as animals of marginal interest during the early nineteenth century. George Shaw emphasized the insignificance of squid compared to octopuses, and French zoologists such as Lamarck and André Marie Constant Duméril stated that only octopuses could achieve remarkable sizes.[63] Quoy and Gaimard mentioned that the giant-sized squid they saw would have been a real monster if only it had been an octopus![64] It was not until the 1830s and the 1840s that the systematic study of squid began after the publication of the monograph by Férussac and d'Orbigny.[65] Octopuses thus had a far higher profile in the public discussion than squid. They were the monsters among cephalopods that appeared in the natural-historical and popular books. Owen raised the profile of the squid, but as a monster.

Given the dominant natural-historical understanding of cephalopods, Owen could not understand enormous squid as *loligo* but defined it vaguely as a cephalopod. This emerges in his writing. Although Owen mentioned that his text concerned the squid, he used the word "cephalopod" in the sentences in which he entangled the animal in discourses about enormous octopuses.[66] In all probability he attempted to avoid connecting monstrosity explicitly with the squid, because the squid was not regarded as a monster-like animal in the period when he wrote. But

Owen could not resist embellishing his writing with discourses normally attached to enormous octopuses, which resembled the large squid he was writing about anatomically.[67] Thus the prevalent image of the giant-sized and vicious octopus influenced Owen's description of squid.

When describing Banks's squid, Owen writes in his account that "the natives of the Polynesian Islands, who dive for shellfish, have a well-founded dread and abhorrence of these formidable Cephalopods, and one cannot feel surprised that their fears should have perhaps exaggerated their dimensions and destructive attributes."[68] There are two discourses of giant-sized and malevolent octopuses that provide the basis for this quote. One of is the assumption that enormous octopuses live in faraway seas where they torment natives. Another is the ability of octopuses to attack people that they have spotted in the water.

The discourse of the giant-sized octopuses that bother natives in the faraway seas was old. It was mentioned in Thomas Pennant's *British Zoology* (1777), in which the author states that boat-sinking and enormous octopuses inhabit the Indian Ocean.[69] Similarly, Denys de Montfort emphasizes this characteristic of colossal octopuses which live in seas located in distant parts from the Eurocentric perspective.[70] This discourse was also well presented during the first decades of the nineteenth century. For instance, the Baltic explorer Otto von Kotzebue explains in his *A Voyage of Discovery, Into the South Sea and Beering's Straits, for the Purpose of Exploring a North-East Passage, Undertaken in the Years 1815–18* (1821) that the natives living in the Aleutian Islands told him about enormous octopuses that dragged boats into the depths in the waters around their islands.[71] The book by von Kotzebue was translated into several languages,[72] and his story of enormous octopuses was published in numerous newspapers in the 1820s.[73] Owen was probably inspired by these narratives when he attempted to outline the natural history of Banks's squid.

Owen's description of Banks's squid also contributed to the discourse of octopuses that had begun with Pliny's *Naturalis Historia*, that these animals tend to attack people in the water.[74] This fable was still well represented during the early nineteenth century. For instance, Sir Grenville Temple explained in his *Excursions in the Mediterranean* (1835) how an octopus had dragged a bathing Sardinian captain into the depths.[75] Even the celebrated Georges Cuvier contributed to this belief. In his *Le règne animal distribué d'après son organization* (1817), Cuvier explains that octopuses are cruel and voracious animals that have killed swimmers.[76] Owen seems to have drawn on these narratives when he described Banks's squid as a threat to Polynesian pearl divers.

So it seems that Owen's descriptions of the behavior of squid rested on old discourses about enormous octopuses, and had nothing to do with the real agency of squid. In the end, Owen merely based his description of Banks's squid on the analysis of this specimen preserved in the collections of the Royal College of Surgeon in London, which had been dead for almost 70 years.[77] Thus, Owen could not have had the slightest idea about the behavior and agency of Banks's squid, which is why he ended up consulting the literary sources to find accounts of how this squid acted in its natural habitat.

In addition to his suggestion that Banks's squid would attack divers, Owen requested that readers of his account imagine themselves as victims of the squid to get a good idea of its nature:

> Let the reader picture to himself the projecting margin of the horny hoop developed into a long, curved, sharp-pointed claw, and these weapons clustered at the expanded terminations of tentacles, and arranged in a double alternate series along the whole internal surface of the eight muscular feet, and he will have some idea of the formidable nature of the carnivorous Onychoteuthis.[78]

This passage is very effective, as it engages readers by placing them in the clutches of an animal Owen declares to be carnivorous. The monstrosity of giant-sized squid like that discovered by Banks has been established. Moreover, on the same page as the above passage there was a drawing of the head, arms and clawed tentacles of Banks's squid.[79]

This drawing (Figure 4.3) must have had a remarkable impact on readers because it enabled them to visualize the monstrous creature with all the parts that Owen described: the head, arms, and tentacles. In their minds, the giant-sized squid was becoming a monster to rival the enormous octopus.

Owen's description of Banks' squid is also interesting because it strengthens the argument that zoologists in the field of cephalopod studies attempted to debunk fabulous narratives of cephalopods with the carcasses or body parts of giant-sized squid. Owen writes that "one cannot feel surprised that their fears should have perhaps exaggerated their dimensions and destructive attributes,"[80] meaning that the fears of Polynesian pearl divers and the ancients would have led to an exaggeration of the size and abilities of Banks's squid. Owen probably meant that narratives such as Pernety's squid tale and that of the ship-sinking octopus of Denys de Montfort derived from the exaggerations of people who had encountered giant-sized squid. Like various other naturalists and malacologists, Owen tried to use the carcass of one giant-sized squid to debunk mythical narratives of enormous cephalopods, but by doing so he created another myth (this time in the modern usage of the word): with his dramatic description and illustration, and because it could give rise to sea monster stories, Banks's squid became an extraordinary animal. The scene had been set for the monsterization of the enormous squid.

Owen's account of Banks's squid became an international success, which was later repeated in several contexts to depict the monstrosity of squid.[81] For instance, Thomas Beale contributed to Owen's description of squid in his book, when he emphasized the monstrosity of enormous cephalopods.[82] Thus, Owen's text indirectly influenced Melville's depiction of the giant-sized squid as a mystical and sinister animal, because Melville used Beale's tale to create the squid of *Moby-Dick*.

Neither did Owen hold back in his later descriptions of Banks's squid. At the meeting of the British Association for the Advancement of Science held at Plymouth in July 1841, when the British colonel Charles Hamilton Smith presented a paper "On the Colossal Sepiadae," in which he added to the knowledge of enormous cephalopods provided by Denys de Montfort, Owen implied that Banks's

Fig. 215.

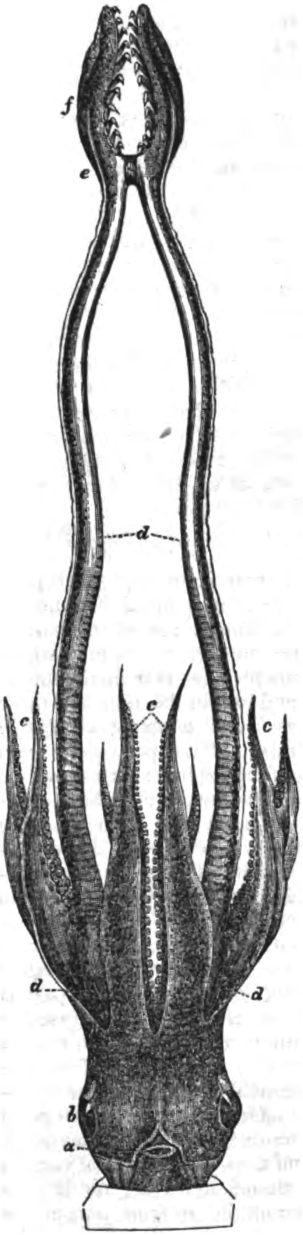


Figure 4.3 On the same page where Owen describes divers as being aware of Banks' squid, there also appeared a drawing representing its head, arms and clawed tentacles.

Source: Owen 1836, 529.

squid was a similar kind of cephalopod. Owen did not correct Smith and explain that the only sizeable cephalopods discovered so far had been squid. Instead, he implied that one could not doubt Smith's evidence about the existence of "enormous Sepia" as the cephalopod found by Banks in the Pacific provided material evidence that such animals existed.[83] It seems that Owen still had difficulty in understanding the difference between the cephalopod species, as Banks's animal was a squid, not a colossal octopus like that of Denys de Montfort and Smith.

Thus, Owen explicitly presented Banks's squid as a monster-like animal that would attack a human if it encountered one. Owen's description is the first nineteenth-century account of enormous squid that explicitly defines it as a terrible and vicious monster. The decisive step in Owen's depiction of giant-sized squid was his emphasis on their size, which eroded the anatomical difference between the squid and the imagined octopus and thereby classed the squid among monsters. As the accounts of sizable squid by Péron and Rang exemplified, it was difficult for contemporary naturalists to realize the difference between enormous squid and octopuses during the three first decades of the nineteenth century, and ultimately their insufficient zoological knowledge and the taxonomical location of the squid led to its demonization. Owen's description of Banks's squid became very popular, circulating throughout the transatlantic culture from the 1830s to the end of the nineteenth century and heavily influencing its perception of giant-sized squid.[84]

The "Architeuthis" is born

Only a few years after d'Orbigny speculated that enormous squid exists in the depths of the seas, some malacologists began to theorize the existence of larger squid than his *Ommastrephes gigas*. Remarkably, they obtained material evidence to support their speculations. As a result of this work, the squid species of *Architeuthis*, which is better known as the *giant squid* today, was added to the taxonomy. Nevertheless, the process by which *Architeuthis* was classified was complicated, and the work by Férussac and d'Orbigny had a remarkable role in making the study of enormous squid possible.

Previous modern studies of the giant squid approach the classification of *Architeuthis* primarily from the perspective of the history of the great men who brought it about. The process has been presented mainly as an achievement of the Danish zoologist Japetus Steenstrup.[85] He was a naturalist working on many subjects. For instance, in the field of genetics, he studied the alternation of generations in parasitic worms. Steenstrup also pointed out ways to interpret changes in climate and vegetation by analyzing the postglacial subfossils. Nevertheless, he is also known of his extensive study on cephalopods.[86]

The tremendous work that Steenstrup did for the classification of enormous squid cannot be denied, but if one approaches the classification of *Architeuthis* and the study of enormous squid in the mid-nineteenth century from the broader historical context, it is clear that this process involved various actors. Steenstrup could not have said anything empirical about these animals if there had not already been giant-sized squid specimens for his studies. Likewise, those who informed him about these animals or delivered their remains to him played an important role.

In addition to this, the attention Steenstrup has received in previous studies of the giant squid has concealed the broader natural-historical interest in enormous squid that developed during the mid-nineteenth century. For instance, the Dutch naturalist Pieter Harting studied enormous squid then, and his impact on the contemporary study of these animals was greater than Steenstrup's.[87] Like Steenstrup, Harting worked on many subjects and he is especially remembered for his achievement in the fields of microscopy. He was also interested in botany, pharmacology, mathematics and hydrology and was first naturalist to investigate biomineralization in the 1870s. Thus, zoology was only one of Harting's interests.[88]

Moreover, recent studies of the giant squid have ignored how zoologists like Steenstrup and Harting included mythical elements in their concept of *Architeuthis* and failed to discuss why Steenstrup's inquiries about these squid did not draw attention in the natural-historical and public discussion.[89]

As well as Steenstrup, Pieter Harting pondered the existence of more sizeable squid than the *Ommastrephes gigas* classified by d'Orbigny. Neither were they alone in their interest in huge squid in this period: the French malacologist Jean Baptiste Vérany wrote about them in his *Céphalopodes de la Méditerranée* (1851), and the American naturalists also began to show interest.[90] The reminiscences of whaling captains about giant-sized squid, published in Maury's *Explanations and Sailing Directions to Accompany the Wind and Current Charts* (1853–55), undoubtedly interested these natural historians.[91] Moreover, the Boston Society of Natural History arranged a talk by a whaling captain, N. E. Atwood, in 1860, who informed the members of the society about the giant-sized squid that whalers occasionally encountered.[92]

In view of the above events, the enthusiasm for the enormous squid was part of the paradigmatic shift in the field of malacology and generally in natural history that occurred from the 1830s to the late nineteenth century, in which naturalists' zoological interest in molluscs grew alongside their enthusiasm for finding yet undiscovered marine animals. This enthusiasm was part of the broader epistemic shift that transatlantic culture went through during the mid-nineteenth century. The epochal work by Férussac and d'Orbigny had provided the necessary basis for more minute study of cephalopods, demonstrating that still more species of enormous cephalopods might yet be discovered in the seas and encouraging malacologists to study these animals.[93]

From the wider cultural perspective, transatlantic cultural interest in the depths of the seas grew dramatically from the 1850s on. As the historian Helen M. Rozwadowski demonstrates, during this period, oceanographers surveyed the Atlantic Ocean for the laying of the transatlantic telegraph cable and cross-section drawings of the North Atlantic began to appear in newspapers.[94] It was also a decade when the British popularizer of natural science Philip Henry Gosse introduced the aquarium to the European and North American audience.[95] This was a very important development as it provided the opportunity for anyone to view a sample of underwater life in any room. The aquarium became a great success, and numerous householders bought one around Europe and North America.[96] All these changes are likely to have created an eagerness among contemporary zoologists to investigate enormous squid.

Having stated that there was a broader cultural tendency to show interest in enormous squid in the mid-nineteenth century, it is evident that Steenstrup and Harting formulated the most influential definition of these squid.[97] As zoologists, they had the authority to define animals and to make veracious descriptions of them. They had, for instance, permits to arrange the giant-sized squid they studied into the taxonomic system.[98] Thus, Steenstrup created the new genre of *Architeuthis* in the 1850s and defined its characteristics.[99] In 1861, Harting redefined the characterization of this genre.[100] The two of them created the characterization of *Architeuthis* and altered that of all enormous squid, not only among zoologists but also among the wider public.

Contemporaries, as well as current biologists, perceived Steenstrup's and Harting's studies of the giant-sized squid as a significant advance in nineteenth-century malacology. Undoubtedly, both Steenstrup and Harting created the basis for the malacological study of enormous squid in the 1860s, but what kind of basis was it? Their studies were based on two methodological approaches, empirical study and speculation. The speculation in their descriptions of *Architeuthis* arguably furthered the monsterization of this genre of squid.

Both Steenstrup and Harting had the opportunity to study giant-sized squid empirically. They also had the required aid for the detailed study of squid, provided by Férussac's and d'Orbigny's monograph.[101] This methodological help was something that the naturalists such as Péron and Quoy and Gaimard did not have when they encountered enormous squid in the seas during the 1800s and the 1810s. This is why they could not place the squid they witnessed in the taxonomical system. Steenstrup used the beak of the squid that was washed ashore in the Skagerrak in 1853 and the carcass of the enormous squid that Vilhelm Hygom delivered to the Danish Zoological Museum in 1854 as his empirical research material.[102] The carcass of a giant-sized squid preserved in the Zoological Museum in Utrecht and the body of an enormous squid delivered in the Amsterdam Zoo probably a few years before 1861 were Harting's empirical research specimens.[103]

Steenstrup received the beak of the enormous squid discovered in the Skagerrak in January 1854.[104] It was this beak bone which persuaded Steenstrup that the squid must be a yet unknown species of the genre *Ommastrephes*. He came to this conclusion after he had compared the beak with others that belonged to already known and massive squid species.[105] Steenstrup also included the beak of the *Ommastrephes gigas* in his comparison. As one can see, the size difference between these beaks was huge (see Figure 4.4).

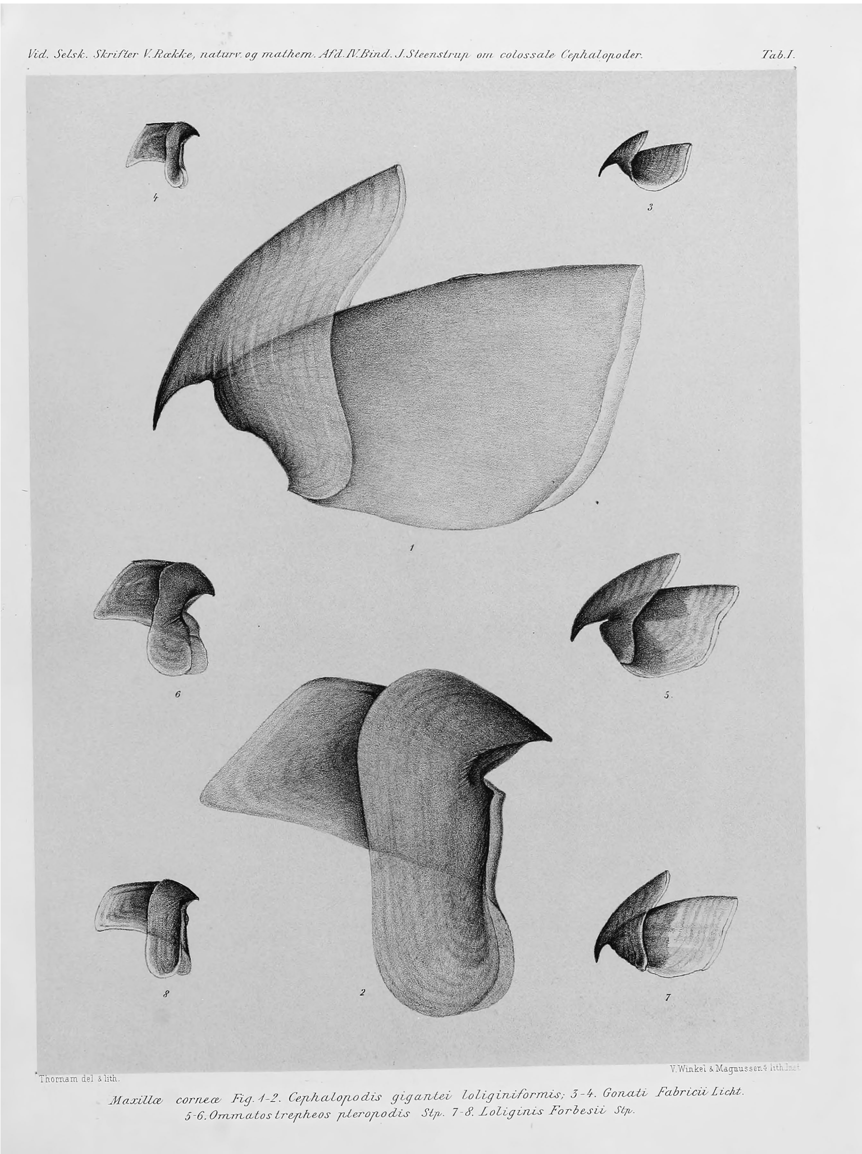
In the next year, Steenstrup received an enormous carcass of a squid that Hygom had delivered to the Danish Zoological Museum.[106] He also compared the anatomy of this squid with the earlier ones and suggested that Hygom's squid belonged to yet another new genre of squid.[107] Steenstrup named the previous new genre *Architeuthis* and the squid that Hygom had delivered to Copenhagen a species of *Architeuthis dux*.[108] The drawings that Steenstrup used to illustrate his research were very informative and a considerable improvement on the previous illustrations of enormous cephalopods (see Figures 4.4–4.6).

The carcass of the giant-sized squid preserved in the Zoological Museum of Utrecht gave inspiration to Harting's work on these animals. He delivered a talk about this animal for the first time in 1858. During the talk, Harting asked if the renowned Dutch zoologists Jan van der Hoeven and Willem Vrolik could assist him in identifying the zoology of this squid. Vrolik then told him about another enormous squid that sailors had delivered to the Amsterdam Zoo, and Hoeven, who was a close friend of Steenstrup, suggested that he should ask Steenstrup for more detailed knowledge about the squid. It is unclear whether Harting himself contacted Steenstrup. The sources suggest that Hoeven delivered copies of at least part of Steenstrup's drawings, mentioned above, to Harting.[109]

Steenstrup's and Harting's analysis of enormous squid, made with the unwitting collaboration of four dead squid, provided new and empirically proven knowledge to malacologists. These studies proved that there were larger squid in the seas which the previous naturalists had not succeeded in classifying. However, it seems that these empirical phenomena were not enough for Steenstrup and Harting, as they both ended up speculating about the natural history of *Architeuthis* and its life circle. This was not odd, because the study of cephalopods had been characterized by speculation since the late eighteenth century.[110] Thus, Steenstrup and Harting perpetuated the existing scientific tradition. Their speculations about the history and life of *Architeuthis* also left the door open to representation of a squid of this genre as a monster.

Historical sources played a significant role in both Steenstrup's and Harting's descriptions of enormous squid. Steenstrup, for instance, sought information about the historical sightings of giant-sized squid from old Danish and Icelandic sources. He found old narratives of different marine natural curiosities that he interpreted as based on encounters with sizeable cephalopods.[111] These ideas were very similar to those of Denys de Montfort, who also used centuries-old sources. Heuvelmans also notices this, as he mentioned that there are similarities between Steenstrup's and Denys de Montfort's methods. Nevertheless, more dubiously, Heuvelmans states that the rumors "about the formidable Kraken," which according to him were repeated all over Scandinavia during the mid-nineteenth century, inspired Steenstrup to study enormous cephalopods.[112] There is no evidence that the mythical Kraken had anything to do with Steenstrup's speculations, or that narratives about the Kraken were much repeated in Scandinavia. They seem to have circulated mainly in the pages of contemporary natural-historical and popular publications.

Perhaps the most renowned of Steenstrup's speculations explaining a natural curiosity with an enormous squid concerned a creature called a sea monk. According to the old chronicles, the sea monk was half monk and half fish, and people discovered it in the strait of Øresund between Denmark and Sweden in the mid-sixteenth century.[113] It became a popular figure during the sixteenth century, and thus it was mentioned in various contemporary treatises of natural history alongside other marine animals.[114] Steenstrup theorized that in reality this creature had been a giant-sized squid that resembled a half-monk, half-fish creature.[115] Probably Steenstrup


Vid. Selsk. Skrifter V. Række, naturv. og mathem. Afd. IV. Bind. J. Steenstrup om colossale Cephalopoder.
Tab. I.
4
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6
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8
2
7
Thornam del & lith.
V. Winkel & Magnussen's lith. Inst.
Maxillæ corneæ Fig. 1-2. Cephalopodis gigantei loliginiformis; 3-4. Gonati Fabricii Licht.
5-6. Ommatostrepheos pteropodis Stp. 7-8. Loliginis Forbesii Stp.

Figure 4.4 To compare different species, Steenstrup reproduced lifesize drawings of the jaws of the most massive and most alike in shape of three known cephalopod species and the jaws of the cephalopod found in 1853.

Source: Steenstrup 1898, Tab. I.

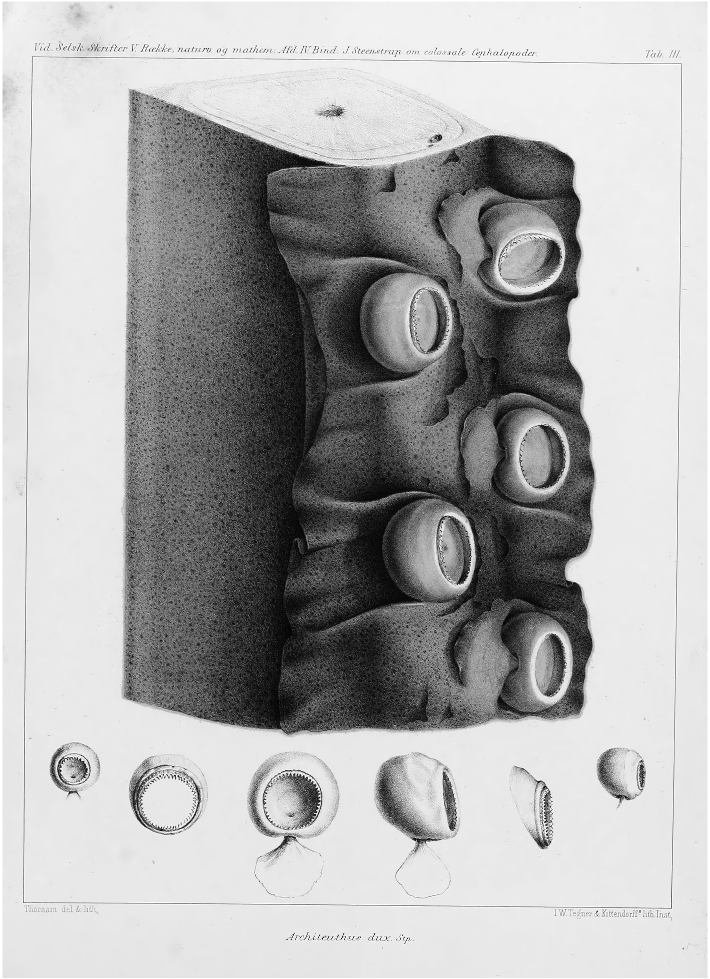
Vid. Selsk. Skrifter V. Række, naturv. og mathem. Afd. IV. Bind. J. Steenstrup om colossale Cephalopoder.
Tab. III.
Thornam del. & lith.
I.W. Tegner & Kittendorff's lith. Inst.
Architeuthus dux. Stp.

Figure 4.5 Steenstrup had illustrators prepare a plate of the arm from the species of Architeuthis dux discovered by Captain Vilhelm Hygom in 1854.

Source: Steenstrup 1898, Tab. III.

intended to write a natural history for the Skagerrak squid including the mythical sea monk. Undoubtedly it was because of this that he named the species of squid washed ashore in the Skagerrak *Architeuthis monachus* (see Figure 4.7).[116]

Some modern studies of the giant squid openly reinforce Steenstrup's suggestion that the mythical sea monk was in fact a stranded giant squid.[117] However, understanding the mythical sea monk as derived from the sighting of an animal ignores several other possibilities. The origins of the narrative and the visual representation of the sea monk creature might very well lie in the propaganda produced during the

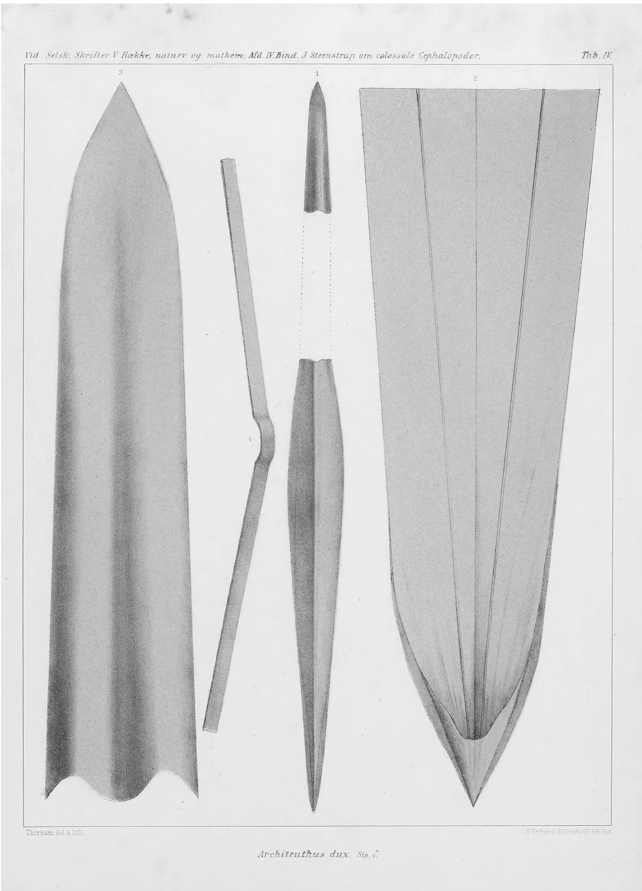
Vid. Selsk. Skrifter V Række, naturv. og mathem. Afd. IV Bind. J. Steenstrup om colossale Cephalopoder.
Tab. IV.
3
1
2
Thornam del & lith.
I.W. Tegner & Kittendorff's lith. Inst.
Architeuthus dux. Stp. ♂

Figure 4.6 Steenstrup also had illustrators prepare a plates of the gladius from the same species of Architeuthis dux that Hygom discovered in 1854.

Source: Steenstrup 1898, Tab. IV.

European wars of religion, rather than sightings of a stranded sea animal.[118] Despite this, Steenstrup's speculation about the connection between the apocryphal sea monk and enormous squid almost certainly influenced the late nineteenth-century understanding of giant-sized squid.

In addition to the sea monk, Steenstrup studied old writings about a natural curiosity that had washed ashore in Iceland in 1639 and records of an enormous cephalopod discovered in Iceland in 1790. He had already focused on these cases in the late 1840s, soon after the epochal monograph by Férussac and d'Orbigny appeared. Remarkably, Steenstrup argued that the natural curiosity discovered in 1639 was an enormous squid, whereas the cephalopod found in 1790 was a cuttlefish.[119] This conclusion clearly reveals how contemporary zoologists began to

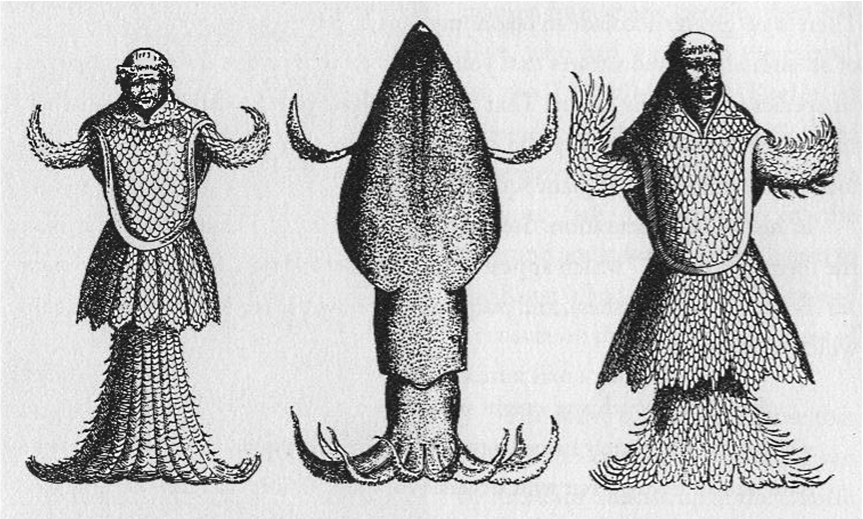

Figure 4.7 Steenstrup compared the drawings of a sea monk that appeared in the sixteenth-century treatises of Belon and Rondelet with an illustration of a squid that he believed represented the squid that washed ashore in Skagerrak in 1853.

Source: Steenstrup 1855, 83.

believe all cephalopods capable of attaining huge sizes and how they read historical sources without understanding that they were written in a different era with a different worldview. Steenstrup probably understood the squid discovered in 1790 as a cuttlefish because the eighteenth-century source mentioned it as a *Sepia officianalis*.[120] During the 1850s this taxon did explicitly mean a cuttlefish, but in the 1790s it might have meant any of the known cephalopods.

Steenstrup did not base his zoological interpretations of enormous squid merely on empirical research material. In addition to historical sources, he used interviews as his research material, as did many of his colleagues.[121] The use of reminiscences is understandable in that knowledge of deep sea animals was difficult to obtain. However, when Steenstrup entangled *Architeuthis* with the mythical sea monk, this genre of squid also became mythical.

Like Steenstrup, Harting utilized speculative methods while he wrote about the carcasses of the giant-sized squid preserved in the Netherlands, which he also placed in Steenstrup's genre *Architeuthis*. For instance, Harting argued that the squid now in the *Architeuthis* class had formerly belonged to *Ommastrephes*. According to him, these squid had grown larger because they had succeeded in escaping their predators and thereafter lived in peace in the depths, where they were able to grow endlessly.[122] Thus, Harting speculated that squid were able to grow *ad infinitum,* which created the impression that there might be unimaginably huge squid in the depths of the seas.

Harting's interpretation that Steenstrup's genre *Architeuthis* had similarities with the monsters in the discourses of enormous octopuses was even more influential than his speculation about their size. An example is his article of 1861, "Description de Quelques de Deux Céphalopodes Gigantesques", where Harting says that such "imaginative stories" as those of the mythical Kraken, the sea monster narratives of Olaus Magnus and the octopuses of Denys de Montfort are somehow connected with the squid belonging to the genre of *Architeuthis*. Note that Harting explained these stories as exaggerations.[123] He is debunking mythical entities in the same way as Péron and d'Orbigny when tried to explain Pernety's story of squid and Denys de Montfort when he attempted to explain Kraken with enormous octopuses. However, in so doing Harting linked the newly created genre of *Architeuthis* with the sea monster discourse.

Harting is in fact the earliest naturalist to create a relationship between the mythical Kraken and enormous squid in the zoological context. As noted, Melville was first who did this, ten years earlier.[124] Harting also mentioned *Architeuthis* in concert with other writings such as Pliny's and Aristotle's about sizeable cephalopods, which he explained as "facts more or less proven."[125] This is an interesting statement as it indicates that Pliny was still regarded as an authority on natural-historical matters in the 1860s. Various scholars have emphasized that Pliny lost his significance among naturalists as early as the sixteenth century.[126] In addition, Harting discussed the squid encountered by Banks, Rang, Péron and Quoy and Gaimard in his article.[127] Hence, Harting created a natural history for the *Architeuthis* that was entangled with the discourses of enormous and vicious octopuses.

Harting's description of the enormous squid preserved in the Netherlands is another excellent example of the vacillating species boundary between the giant-sized squid and enormous octopuses. Like Péron, Rang and Owen, he saw the size of the squid as more significant in defining the animal than its taxonomic status as squid, although zoologists mainly interpreted the squid explicitly as a different animal than the octopus in the natural-historical context. Harting's description eliminated the boundary between sizeable cephalopods that was in the process of being established by associating them, *Architeuthis* included, with popular narratives about sea monsters. Pliny's description of octopuses and Denys de Montfort's writings about colossal octopuses had never before been explained with a squid, but Harting's article of 1861 was to be the beginning of a trend.

The materiality of the bodies of enormous squid that Steenstrup and Harting analyzed was not enough for them. Both of them felt it necessary to historicize the *Architeuthis.* There is no reason to doubt that Steenstrup and Harting had good intentions when they speculated that the enormous squid they had arranged in the genus *Architeuthis* was part of a bigger natural scheme. Nevertheless, because of their work the *Architeuthis* became the most meaningful type of squid to both zoologists and public because it was thought by many to explain mythical sea creatures such as the sea monk, Kraken, Denys de Montfort's and Pliny's octopuses and to be related with the squid that were encountered by Péron, Rang and Quoy and Gaimard.

Although Steenstrup and Harting analyzed and speculated about the anatomy and history of the enormous squid belonging to *Architeuthis*, their theories did not receive immediate notoriety among broader audiences. Unlike Heuvelmans, who bases his arguments on the assumption that enormous squid were such amazing creatures that they inevitably attracted all the early nineteenth-century zoologists,[128] neither contemporary naturalists nor the public were necessarily excited by the existence of enormous cephalopods.

Even though the gaze of transatlantic culture began to focus on the depths of the sea during the 1850s, enormous cephalopods were only one matter of interest. For instance, Darwin's theory of evolution started a paradigmatic shift in zoology during the period and drew more attention than enormous cephalopods.[129] Steenstrup's and Harting's theories about enormous squid were only a part of the active discussion among zoologists in the 1850s and not at the center of the contemporary zoological debate, as modern studies about the giant squid imply.

Steenstrup's significance for the wider knowledge of *Architeuthis* is something that modern studies have judged to be more or less immediate, but they are seeing things from hindsight without examining contemporary media or scientific work for evidence of it.[130] It seems that his inquiries about these animals received almost no publicity before the end of the nineteenth century.[131] Only Harting succeeded in gaining attention in the zoological fraternity after the publication of his research article. There is an irony in this, because Harting's contribution to the study of enormous squid was much more cursory than Steenstrup's broad and meticulous study of them. Harting wrote only one article about them in 1861, whereas Steenstrup studied giant-sized squid from the late 1840s to the 1850s and delivered various lectures and talks about the subject.[132]

Steenstrup's theories did not circulate in public discussion before the last decades of the nineteenth century. This slow response was a result of at least three things: First, he did not publish articles or books on the subject. Second, Steenstrup based his theories on the enormous squid, in addition to empirical observations, on speculation about mythical entities such as the sea monk, considered dubious even at a time when some speculation was acceptable. Thirdly, enormous cephalopods were still a marginal subject in zoological studies in the 1850s.

Steenstrup's scientific writings about enormous squid were not available until his assistant and the Danish zoologist Christian Lütken published them as "Spolia Atlantica. Kolossale Blæksprutter Fra Det Nordlige Atlanterhav" in the year after Steenstrup's death in 1897.[133] These included, for instance, the drawings of the anatomical details of *Architeuthis*. Before this, only the papers that Steenstrup delivered in lectures were published in Danish journals and therefore in Danish, with one exception: his lecture about the sea monk was published in the German journal *Die Natur* in 1857–58.[134] Thus, Steenstrup's theories about enormous squid were difficult to obtain, and for most zoologists, difficult to read.

As noted above, the credibility of Steenstrup's inquiries about giant-sized squid suffered from the marginality of the subject and his speculation that the sea monk was part of the natural history of the *Architeuthis*. Steenstrup himself wrote that he had difficulties in convincing other zoologists of the link between the sea monk and the enormous cephalopod.[135] Several of Steenstrup's friends and colleagues, such as Jan van der Hoeven, knew of his inquiries into sizeable squid. Unfortunately, many contemporary zoologists and malacologists who did not know him were unaware of his writings about cephalopods until the end of the nineteenth century and had no opportunity to read them. Harting, for instance, heard about Steenstrup's writings from Hoeven.[136] Notably, esteemed animal encyclopedias such as the *Encyclopédie d'Histoire Naturelle* (1858) by Jean-Charles Chenu and Eugène Desmarest and the *Illustrated Natural History of the Animal Kingdom* (1859) by Samuel Goodrich did not mention a word about *Architeuthis*, because they did not know of Steenstrup work.[137] Goodrich wrote about sizeable squid by referring only to Richard Owen's text, in which Owen had monsterized the giant-sized squid.[138] Goodrich's encyclopedia thus demonstrated how effectively Owen's description of Bank's squid had begun to circulate in public discussion, influencing how people understood enormous squid. Later in the 1870s, the American malacologist George Washington Tryon wrote that he had tried to find Steenstrup's "Spolia Atlantica" in the 1870s, but in vain.[139]

With Steenstrup's studies on *Architeuthis* appearing only in some Danish publications and one German journal before 1897, Harting's article became the main disseminator of knowledge about *Architeuthis* to the public in the 1860s and '70s.[140] It did not provide the same knowledge as Steenstrup's texts and explained *Architeuthis* as the overgrown *Ommastrephes* that had inspired, among other things, Denys de Montfort and Olaus Magnus to tell their sea monster stories.

None of the mid-nineteenth-century squid researchers, however, explicitly described giant-sized squid as a monster, intentionally chasing humans, as Richard Owen had done in his 1836 account of Banks's squid. The giant-sized squid itself had a minor role in the interpretations that zoologists made of it. Unlike the seafarers' perception, zoologists' understanding of this animal was still mainly based on written sources and discourses rather than empirical knowledge. Their method still included speculation and reference to legend or ancient and early modern treatises, which led to misunderstanding.

Notes

1 See, e.g. Férussac 1823, 63–67; Blainville 1823, 127–48; Férussac & d'Orbigny 1835–48, LII.

2 Only a few studies of the giant squid explicitly state that early nineteenth-century zoologists did not take any notice of enormous squid. See Heuvelmans 1974b [1958], 338–40; Earle 1977, 20–21; Muntz 1995, 1; Heuvelmans 2006 [1958], 182–83; Adamowsky 2015, 90–91. Nevertheless, the idea that natural historians did not take note of enormous squid is implicit in numerous books about the giant squid. They usually imply that the zoological history of the species of giant squid begins after the sighting of a sizeable squid made by the crew of *Alecton* in 1861. See e.g. Heuvelmans 1974b [1958], 346–49; Roper & Boss 1982, 2; Muntz 1995, 19–20; Spaeth 1998, 131; Ellis 1999, 5, 78–80; Heuvelmans 2006 [1958], 188–90; Hatcher & Battey 2011, 44.

3 Heuvelmans 1974b [1958], 338–40; Heuvelmans 2006 [1958], 182–83.

4 Several zoologists such as William Leach, Hindric Lichtenstein and Richard Owen inquired Banks's squid from the 1810s to 1830s. Leach 1817, 141–42; Lichtenstein 1820, 223–26; Owen 1836, 529.

5 As Quoy and Gaimard as well as the Dutch naturalist Jan van der Hoeven state, the remains of the squid discovered by the Freycinet expedition in 1817–20 were stored in the Museum d'histoire naturelle de Paris. Hoeven wrote later that he saw the remains of this squid in 1824, with the following inscription: "Various portions of intestines

of an enormous squid that was found dead in the sea near the equator, weighting approximately 400 pounds, by M. Freycinet." Translated from the "Diverses parties of intestins d'un énorme Calmar, trouvé mort à la mer près de l'Equateur du poids à peu près de 400 livres par M. Freycinet." *Algemeene Konst- en Letterbode* 1.11.1856. See also Quoy & Gaimard 1824, 411.

6 Heuvelmans 1974b [1958], 338–40; Heuvelmans 2006 [1958], 182–83.

7 Annie Tillier recognizes three stages in the publication of the monograph text. 1. Introduction and general remarks by Férussac in 1834–35. 2. Introduction and general remarks as well as text pp. 1–232 by d'Orbigny in 1839–42. 3. Last part of the text pp. 233–361 by d'Orbigny in 1845–48. Tillier & Boucher-Rodoni 1993, 103.

8 The *Histoire naturelle générale et particulière des céphalopodes acétabulifères vivants et fossils* includes two bound volumes. Only the first volume contains Férussac's texts, this being the introduction to Molluscs and including general remarks on Cephalopods. This should not, however, be confused with d'Orbigny's preface (pp. I–LVI). See Tillier & Boucher-Rodoni 1993.

9 For instance, the renowned biologist Gilbert L. Voss emphasizes that Alcide d'Orbigny was among the first zoologists who suggested that cephalopods inhabit the depths of the seas, or at least below the zone of light penetration. D'Orbigny also introduced the large orders of *Myopsina* and *Oegopsina*, morphologically dividing all squid into these two groups according to the structure of their eyes. This division also identifies the habitats of squid because the *Myopsina* usually lives in coastal waters and *Oegopsina* mainly in the open sea. Férussac & d'Orbigny 1835–48, XV–XVI, XXII, XXXVII; Voss 1967, 511; Jereb & Roper 2010, 19–20, 25–35, 118; See also Tillier & Boucher-Rodoni 1993, 97.

10 On voit qu'il est impossible de douter que de très grandes espèces, peut-être appartenant à nos genres *Ommastrephes* et *Philonexis*, habitent toutes les mers et sont encore inconnues à la science. Ces faits donnent, à notre avis, l'explication des exagérations populaires, et non-seulement viendraient appuyer notre opinion sur l'accroissement de toute la vie des Céphalopodes, mais encore, par la rare apparition de ces grandes espèces, nous donner la preuve que des zones profondes de la mer recèlent un grand nombre d'animaux qui nous sont encore inconnus, et présentent des formes tout à fait nouvelles. Férussac & d'Orbigny 1835–48, LII. I have translated the quote.

11 The quote appeared in the preface of the monograph written by Alcide d'Orbigny. See Férussac and d'Orbigny 1835–48, LVI. See also Tillier & Boucher-Rodoni 1993, 97.

12 See e.g. Heuvelmans 1974b [1958], 338–40; Earle 1977, 20–21; Muntz 1995, 1; Heuvelmans 2006 [1958], 182–83; Adamowsky 2015, 90–91.

13 See e.g. Pernety 1769, 602–03; Pennant 1777, 53–54; Bosc 1801, 36; Denys de Montfort 1801–02, 256–412.

14 About *Ommastrephes* see d'Orbigny 1835–43, 45–57; Férussac and d'Orbigny 1835–48, 341–53. On *Philonexis,* see d'Orbigny 1835–43, 14–23: Férussac and d'Orbigny 1835–48, 83–105.

15 See d'Orbigny 1835–43; Heron-Allen 1917, 47–53.

16 Later, in 1845, D'Orbigny classified this squid as *Ommastrephes Giganteus*. He also called it *Ommastrèphe Géant* and *Loligo Gigas*. D'Orbigny 1835–43, 50; Férussac & d'Orbigny 1835–48, 350–51.

17 D'Orbigny's *Ommastrephes Gigas* have several names today. First Japetus Steenstrup reversed its taxonomical name as *Dosidicus Gigas* in the 1850s. In addition to the Humboldt squid, it is known as the "Jumbo flying squid" or just "flying squid". According to biologists, it can attain a mantle length of 1.5 meters and it also has a reputation as the most aggressive squid. Jereb & Roper 2010, 300–04.

18 For instance, both Japetus Steenstrup and Pieter Harting tried to place the enormous squid they studied in the 1850s among the *Ommastrephes*. Steenstrup 1855a, 199–200; 1962, 14–15; Harting 1861, 13.

19 Férussac & d'Orbigny 1835–48, LI–LII.

20 See e.g. Heuvelmans 1974b [1958], 338–40; Earle 1977, 20–21; Muntz 1995, 1; Heuvelmans 2006 [1958], 182–83; Adamowsky 2015, 90–91.

21 See e.g. Virey 1803, 491; Bosc 1803a, 401; Bosc 1817, 126; Blainville 1826, 182; Rang 1829, 86; Deshayes 1830, 214; Férussac & d'Orbigny 1835–48, LI–LII.

22 In his book, d'Orbigny explained that Pernety's narrative of a colossal squid and the description of squid that Molina made with reference to Pernety's story were based on the sightings of his *Ommastrephes Gigas*. D'Orbigny explains that he came to this conclusion because he heard from the Chilean fishermen that his *Ommastrephes Gigas* was the largest squid seen in Chilean waters. Thus, d'Orbigny believed that he had explained the descriptions of squid by both Pernety and Molina. D'Orbigny 1835–43, 52; Férussac & d'Orbigny 1835–48, 350–51.

23 See Denys de Montfort 1801–02, 386–411; Bosc 1801, 36; Péron 1807, 216; Jangoux 2004, 15–16; d'Orbigny 1835–43, 52; Férussac & d'Orbigny 1835–48, 350–51.

24 About the enlightenment mission to destroy myths, see Horkheimer & Adorno 2002.

25 Cuvier had suggested reformation of the Linnaean classification already in 1798, when he separated the Linnaean classes Insecta and Vermes, calling them "animals with white blood," into the three categories: 1. Mollusca, 2. Insects and Vermes and 3. Zoophyte. During the first two decades of the nineteenth century, Lamarck sharpened Cuvier's reform of the Linnaean classification. He added the classes he called *invertebrates* because they all lacked vertebra. He divided the invertebrates into seven different classes in his celebrated *Système des animaux sans vertèbres* (1801). These classes were 1. Mollusca, 2. Crustacean, 3. Arachnides, 4. Insects, 5. Worms, 6. Radiata and 7. Polyps. Damkaer has explained that Lamarck segregated, for instance, the categories of arachnids, annelids, echinoderms, and crustaceans, all taken from Cuvier's Insecta and Vermes. By doing so, he created a sound basis for invertebrate zoology. Later in the 1810s, Cuvier divided the animal kingdom into four different branches according to their body structures, such as a possession of a brain and a spinal cord: 1. Vertebrates, 2. Mollusca, 3. Articulata and 4. Radiata. See Cuvier 1798; Lamarck 1801; Cuvier 1817. See also Cuvier 1830; Eigen 1997; Damkaer 2002, 117–23; Reiss 2009, 89; Vinarski 2014.

26 See e.g. Bowler 1992, 255; Spary 2000, 2.

27 Foucault 2002 [1966], 150.

28 Shaw 1809, 132, 134.

29 Cuvier 1795, 447–48.

30 These species were *Loligo vulgaris*, *Loligo sagittata*, *Loligo subulata* and *Loligo Sepiola*. Lamarck 1798, 129–31; Lamarck 1799, 10–17.

31 In addition to Cuvier and Lamarck, various malacologists of the next generation such as the French Henri Marie Ducrotay de Blainville and the British William Leach began to make remarkable additions to the field of cephalopod studies. Leach, for instance, distinguished the octopus from the squid and the cuttlefish by dividing them into different orders according to the number of arms. Leach arranged octopuses in the group of *octopod* and squid and cuttlefishes in the group of *decapod*. Leach 1817, 141–42. See also Damkaer 2002, 147–55, 241–49.

32 William Leach added Banks's squid to his classification of cephalopods in the third volume of his *The zoological miscellany: being descriptions of new, or interesting animals* (1817). It was a remarkable account of this squid, as it was based entirely on his observations of the squid itself, not on the other published written material about it. Leach named the squid *Loligo Banksii*. Nevertheless, Leach did not mention anything about its large size, only that it had claws on its arms. The claws appearing on the arms of squid also interested Hindric Lichtenstein. He had attained a specimen of clawed squid discovered by Karl Heinrich Bergius on the high seas near South Africa. Lichtenstein wrote an article concerning clawed squid and named its genre as *Onychoteuthis*.

According to Lichtenstein, he visited Leach, as he had read Leach's classification of clawed squid. They observed a few clawed squid in the British Museum, among them the squid found by Banks. However, the only thing Lichtenstein mentioned about its size was that it was six times larger than the squid *Onychoteuthis bergii* they had in Berlin. Leach 1817, 141–42; Lichtenstein 1818, 1591–92; Lichtenstein 1820, 223–26.

33 See Leach 1817, 141–42; Lichtenstein 1818; 1820.

34 For instance, *Myopsid* squid do not have claws, whereas some Oegopsid squid, such as the squid belonging to the family *Onychoteuthidae*, do have them. Jereb & Roper 2010, 26–27, 34–35, 118, 348.

35 Férussac 1823; Blainville 1823.

36 Férussac 1825, 113–14.

37 About belemnites, see Taylor & David 2007, 94–96; Etter 2015.

38 Etter 2015, 180.

39 Von Schlotheim published the *Die Petrefactenkunde auf ihrem jetzigen Standpunkte durch die Beschreibung* (1820) describing his collections of fossils. Among them, he includes the belemnite fossil, which he named as *belemnite giganteus*. Baron von Schlotheim had already mentioned the same fossil in his article published in *Taschenbuch für die gesammte Mineralogie* (1813). In that article, the fossil was mentioned only as "belem. gigas. Schwaben meine Sammlung" alluding to the place where he found the fossil, Swabia in south-western Germany. In his treatise, von Schlotheim clearly implied that the fossil belonged to a gigantic animal. Schlotheim 1813, 70; Schlotheim 1820, 45–46.

40 The original citation: "représenter ces énormes céphalopodes, premiers habitans des mers dans les temps primitifs." Férussac 1825, 113–14.

41 In France, naturalists such as André Marie Constant Duméril and Lamarck emphasized that octopuses were the only cephalopods able to reach sizeable dimensions. In England, the renowned natural historian George Shaw wrote about the enormous octopuses with references to Pennant's as well as Denys de Montfort's writings about them. Another British naturalist, William Turton, emphasized Pennant's speculation about the giant-sized octopus. In addition to him, Robert Hamilton attributed his information about the enormous octopus and the Kraken primarily to the visual and textual heritage of Denys de Montfort. In the United States, the naturalist Samuel L. Mitchill wrote some articles about colossal octopuses, which added to the speculation that Denys de Montfort presented in his treatise. In Germany, Denys de Montfort's writings on colossal octopuses and the Kraken especially inspired the naturalist Lorenz Oken. According to the *Deutsches Wörterbuch von Jacob und Wilhelm Grimm*, Oken is also to be credited with the introduction of the word "Kraken" into the German language, in which it has meant "octopus" ever since. He also added these octopuses as part of the taxonomy he presented in his *Lehrbuch der Naturgeschichte* (1815), as Sepia *Gigas* and Sepia *Microcosmus*. As Oken's example indicates, some naturalists discussed enormous cephalopods as *Sepias*, which suggests that the Linnaean way of classifying cephalopods was still influential during this period. According to my interpretation, it is, however, impossible to determine whether the naturalists who classified cephalopods as *Sepias*, understand these animals as cuttlefishes or vaguely as any of the three cephalopods, because the Linnaean system included all the cephalopods under *Sepias*. I would suggest that many of these naturalists, like Oken, perceived the enormous cephalopods they classified as Sepias as octopuses, as these were perceived as the dominant cephalopod. For instance, Bosc wrote in the volumes of the *Nouveau dictionnaire d'histoire naturelle* published in 1803–04 and 1816–19, referring to his previous writing, that the Kraken is a *Sepia*. As mentioned in chapter 2, Bosc plausibly saw his *Sepia* as an octopus. Molina also published the second edition of his *Saggio sulla storia naturale del Chili* (1810), in which he still discussed the enormous cephalopods as *Sepias*. The zoologist John Edward Gray wrote about sizeable cephalopods in his *Spicilegia Zoologica, or original figures and short systematic descriptions of new and unfigured animals* (1828),

but vaguely defines them as belonging to the family of *Sepiadae*. See e.g. Bosc 1803a, 281; Bosc 1803b, 401; Duméril 1806, 156; Turton 1806, 118; Shaw 1809, 127–40; Molina 1810, 175; Mitchill 1813; Mitchill 1815; Oken 1815, 335–44; Bosc 1817, 126; Lamarck 1822, 656; Gray 1828, 3; Hamilton 1839, 330–36. See also Deutsches Wörterbuch von Jacob und Wilhelm Grimm. 16 Bde. in 32 Teilbänden. Leipzig 1854–1961. Quellenverzeichnis Leipzig 1971. Online-Version vom 20.05.2016.

42 Rang 1829, 86.

43 Overall, d'Orbigny had faith in the accounts of enormous cephalopods by distinguished naturalists because he also mentions in the notes the writings by Swediaur and the British zoologist John Edward Gray. Férussac & d'Orbigny 1835–48, LII.

44 Quoy and Gaimard mentioned Péron's account of the enormous squid he saw near Tasmania in their published journal about the zoological discoveries they made during the Freycinet circumnavigation. Similarly, Férussac mentioned the enormous squid the crew of the Freycinet expedition saw near the equator in his review of Quoy's and Gaimard's journal. Quoy & Gaimard 1824, 411–12; Férussac 1825, 113–14.

45 Cuvier did not mention Péron's squid in his celebrated *Le Règne animal* (1817), neither did Lamarck in his eminent *Histoire naturelle des animaux sans vertèbres* (1815–22). Cuvier 1817, 364; Lamarck 1822, 662–64. See also Duyker 2006, 63.

46 Péron 1807, 216; Jangoux 2004, 15–16.

47 Duyker 2006, 221–34.

48 Quoy & Gaimard 1824, 411; *Algemeene Konst- en Letterbode* 1.11.1856.

49 Freycinet 1827, 27.

50 See Rupke 2009.

51 Owen worked first as a conservator of the Museum of the Royal College of Surgeons, and he was appointed as Hunterian professor in the Royal College of Surgeons in 1836. While Owen worked in the College, he had the opportunity to dissect the animals preserved in its Hunterian Collection. See Rupke 2009.

52 Owen 1836, 529.

53 See e.g. Beale 1839, 64–65; Gosse 1846, 305; *An Essay of the Credibility of the Kraken* 1849, 23–24; Johnston 1850; Goodrich 1859, 502; Kearley 1862, 99; Packard 1873, 88; Burton 1875, 239; Kearley 1878, 99. See also Heuvelmans 1974b [1953], 283; Heuvelmans 2006 [1953], 146–47.

54 Péron 1807, 216; Quoy & Gaimard 1824, 411–12; Owen 1836, 529; Jangoux 2004, 15–16.

55 See e.g. Robson 1933, 681; Steinbach 1951; Aldrich 1969; Cohen 1970, 27–29; Heuvelmans 1974a [1958], 54–55, 220–51; Heuvelmans 1974b [1958], 279, 327, 366, 384, 417; Earle 1977, 16, 22; Muntz 1995, 6–11; Andriano 1999, 15; Ellis 1999, 2, 17, 60; Guerra et al. 2004, 2; Ellis 2006 [1995], 113–64; Heuvelmans 2006 [1958], 23–24, 115–31, 144, 176, 201, 211, 232; Martin 2009, 10–11; Emmer 2010; Hatcher & Battey 2011, 43–45; Williams 2011; Winkelmann et al. 2013, 2; Tiffin 2014, 152–53.

56 Melville 1922 [1851], 352. I have discovered only two publications that introduced Kraken as giant-sized squid in the late 1850s after the publication of *Moby-Dick*. *Whaling and Fishing* (1856) by the American journalist Charles Nordhoff is one and the article "A Plea for a Monster", published in *Harper's New Monthly Magazine* in 1860 is the other. However, this article also discusses the squid and the octopus as the same animal. Kraken as the enormous squid became common at the end of the nineteenth century. Nordhoff 1856, 159; "A Plea for a Monster" 1860, 188–93.

57 The credit for entangling the mythical Kraken with enormous octopus goes to Denys de Montfort and Bosc. Bosc 1801, 36; Denys de Montfort 1801–02, 256–412.

58 On Kraken as its own entity see e.g. *Impartial Observer* 24.5.1806; "Bishop Pontoppidan's Account of the Kraken." 1813; *Connecticut Spectator* 13.7.1814; Montgomery 1819, 29; Brooke 1823, 188–90, Flörke 1825; see also Roberts 2000, 20. On Kraken as a sea serpent, see e.g. "Enormous Sea-Serpent" 1809, 752. On Kraken as an animal other than an octopus, see e.g *The Daily Advertiser* 19.1.1805.

59 See e.g. Ulanski 2008, 19; Emmer 2010, 51–52; Tiffin 2014, 152–53; Hatcher & Battey 2011, 43–45. For Tennyson's poem, see Roberts 2000, 20.

60 According to my inquiries, writings that mention Kraken in the same context as the octopus gradually began to appear during the early nineteenth century. See e.g. Bosc 1803a, 401; Vollmer 1805, 87–96; Bruun 1810, 513–14; "Sur les Polypes monstrueux qui habitent le fond des mers" *Journal de l'Empire* 30.3.1814; Oken 1815, 335–44; Vollmer 1816, 120–33; Bosc 1817, 126; Blackwood 1818; Bruun 1822, 503–04; "The Kraken, or a Gigantic Polypus." 1822, 231; Cloquet 1830, 328–31; *Conversations on Nature and Art* 1839, 184–86; Hamilton 1839, 330–36; "El Kraken Ó Gran Serpiente Marina." 1840; Schuselka 1840, 25–28.

61 See e.g. Rice 2012, 27–31.

62 See e.g. Gosse 1854b, 67; Goodrich 1859, 501.

63 Duméril 1806, 156; Shaw 1809, 132, 134; Lamarck 1822, 656. Denys de Montfort also emphasizes that only octopuses are able to grow enormous. See Denys de Montfort 1801–02, 16–17.

64 Quoy & Gaimard 1824, 411.

65 See Férussac & d'Orbigny 1835–48.

66 Owen 1836, 529.

67 As Timo Maran emphasizes, a sighting of an unknown animal species leads humans to explain it with another animal species resembling it. Maran 2015, 470.

68 Owen 1836, 529.

69 Pennant 1777, 53–54.

70 Denys de Montfort 1801–02, 279–81.

71 See e.g. Kotzebue 1821a, 184; Kotzebue 1821b, 108; Kotzebue 1822, 278.

72 Kotzebue's travel account was translated into Dutch, English, and Russian. Kotzebue 1821a; Kotzebue 1821b; Kotzebue 1821c; Kotzebue 1822.

73 For instance, several British periodicals discussed von Kotzebue's description of the "gigantic polypus" in 1821–22. The American *The Nautical Magazine* wrote about his giant octopuses in the 1840s. See e.g. "Gigantic Polypus" 1821, 455; "The Kraken, or a Gigantic Polypus." 1822, 231; "Gigantic Polypus" 1822a, 251; "Gigantic Polypus" 1822b, 100; ”Odd Fish” 1849, 199.

74 See Pliny 9.90–93. See also Aldrovandi 1606, 7–8.

75 Temple 1835, 139.

76 Cuvier 1817, 362–63.

77 According to Joseph Banks, he discovered this squid in 1769. Banks 1896 [1768–71], 65.

78 Owen 1836, 529.

79 Ibid.

80 Owen 1836, 529.

81 See e.g. Beale 1839, 64–65; Gosse 1846, 305; *An Essay of the Credibility of the Kraken* 1849, 23–24; Johnston 1850; Goodrich 1859, 502; Kearley 1862, 99; Packard 1873, 88; Burton 1875, 239; Kearley 1878, 99. See also Heuvelmans 1974b [1953], 283; Heuvelmans 2006 [1953], 146–47.

82 Beale 1839, 64–65.

83 Section D.– Zoology and Botany, *The Literary Gazette* 28.8.1841; Section D.– Zoology and Botany, *The Athenæum* 28.8.1841; "On the Colossal Sepiadae. By Col. Hamilton Smith, F.R.S." 1842, 73; Association Britannique pour l'avancement des sciences, *l'Institut* 10.3.1842.

84 For instance, the Scottish naturalist George Johnston mentions Owen's description of monster-*onychoteuthis* among the stories of enormous and vicious octopuses in the section "Monstrous Cephalopods" in his *An Introduction to Conchology* (1850). Johnston 1850, 15. See also Beale 1839, 64–65; Gosse 1846, 305; *An Essay of the Credibility of the Kraken* 1849, 23–24; Johnston 1850; Goodrich 1859, 502; Kearley 1862, 99; Packard 1873, 88; Burton 1875, 239; Kearley 1878, 99. See also Heuvelmans 1974b [1953], 283; Heuvelmans 2006 [1953], 146–47.

85 See e.g. Heuvelmans 1974b [1958], 327–36; Earle 1977, 22–49; Ellis 1999, 60–75; Heuvelmans 2006 [1958], 176–81; Barrère 2014; Adamowsky 2015, 89–90.

86 See e.g. Knudsen 1980.

87 Only a few studies or popular books about the giant squid mention Pieter Harting. Of these, only Heuvelmans says something about his contributions to the study of *Architeuthis*. Heuvelmans 1974b [1958], 325–26; Earle 1977, 39; Heuvelmans 2006 [1958], 175; Barrère 2014, 147; Adamowsky 2015, 90.

88 See e.g. van Berkel & van Helden & Palm (eds.) 1999, 457–59.

89 None of the recent studies of the giant squid have critically discussed the mythical elements in Steenstrup's and Harting's works. In addition, only Earle and Barrère have noted that Steenstrup's inquiries about *Architeuthis* did not attract attention until the last decades of the nineteenth century. See Earle 1977, 39; Barrère 2014, 82–83.

90 See Vérany 1851.

91 Maury 1853, 293, 297, 311.

92 *Proceedings of the Boston Society of Natural History* 1861, 226.

93 See Férussac & d'Orbigny 1835–48.

94 Rozwadowski 2005, 73–95.

95 See Gosse 1854a. See also Brunner 2005.

96 See Brunner 2005; Adamowsky 2015, 112–16.

97 Steenstrup 1849; Steenstrup 1855a; Steenstrup 1855b; Steenstrup 1857; Steenstrup 1882; Steenstrup 1898; Steenstrup 1962; Steenstrup 1980 [1855]; Harting 1861.

98 A code of zoological nomenclature developed in the nineteenth century. See e.g. *International Code of Zoological Nomenclature, Adopted by the XV International Congress of Zoology / Code International de Nomenclature Zoologique, Adopté Par Le XVe Congrès International de Zoologie* 1961.

99 Steenstrup 1857, 183–84; Steenstrup 1898, 454; Steenstrup 1962, 18, 302–03.

100 Harting 1861.

101 Both Steenstrup and Harting referred a great deal to Férussac's and d'Orbigny's monograph. See Harting 1861; Steenstrup 1855a, 199; Steenstrup 1880; Steenstrup 1962, 14, 52–82. See also Steenstrup 1962, 5.

102 Steenstrup 1855b, 92–93; Steenstrup 1898, 413, 415, 420–21, 450; Steenstrup 1962, 260, 262, 268, 298. See also "Mödet Den 11te Mai." 1855, 199–200.

103 Harting 1861.

104 Steenstrup explains that a "young physician" severed the beak from the carcass and a wreck-master of Skagen called Kjelder later sent it to him. Steenstrup 1898, 415, 422; Steenstrup 1962, 262, 270.

105 Steenstrup 1898, 415–24; Steenstrup 1962, 262–72.

106 Hygom discovered the carcass of the giant-sized squid almost intact, although it had been slightly injured by a shark. Steenstrup marked in his papers that Hygom found the squid in the Atlantic Ocean at 31° Lat. N and 76° Long. W. Steenstrup 1898, 413, 450; Steenstrup 1962, 260, 298.

107 Steenstrup 1857, 183–84; Steenstrup 1898, 450–54; Steenstrup 1962, 18, 298–303.

108 Steenstrup 1857, 183–84; Steenstrup 1898, 454; Steenstrup 1962, 18, 302–03.

109 "Gewone vergadering der afdeeling wis- en natuurkundife Wetenschappen, Gehouden den 26sten Junij 1858" 1858, 223–24; *Algemeene Konst- en Letterbode* 10.7.1858; Harting 1861.

110 As I have demonstrated earlier, numerous naturalists such as Bosc, Denys de Montfort, Péron and d'Orbigny used speculative methods when studying the natural history of enormous cephalopods.

111 Steenstrup read, for instance, various works by sixteenth- and seventeenth-century Danish historians such as Arild Huitfeldt, Niels Krag, Stephan Hansen Stephanius and Anders Sørensen Vedel. In addition, he read the seventeenth-century Icelandic annals by Björn Jónsson of Skarðsá. He also read numerous treatises by early modern naturalists such as Guillaume Rondelet and Pierre Belon. See e.g. Steenstrup 1855b,

Steenstrup 1858a: Steenstrup 1858b; Steenstrup 1858c; Steenstrup 1858d; Steenstrup 1980 [1855]. See also Spräck 1962.

112 Heuvelmans 1974b [1958], 328; Heuvelmans 2006 [1958], 176.

113 Steenstrup 1855b, Steenstrup 1858a: Steenstrup 1858b; Steenstrup 1858c; Steenstrup 1858d; Steenstrup 1980 [1855].

114 For instance, Pierre Belon, Guillaume Rondelet and Conrad Gesner wrote about the sea monk. See Belon 1553, 37; Rondelet 1554, 493, Gesner 1558, 440–41. See also Paxton & Holland 2005; Glardon 2007, 126–27; Latva 2014.

115 Steenstrup 1855b; Steenstrup 1858a; Steenstrup 1858b; Steenstrup 1858c; Steenstrup 1858d; Steenstrup 1980 [1855].

116 Steenstrup 1857, 183–84; Steenstrup 1962, 18.

117 See e.g. Ellis 1999, 60–65; Roper 2007, 121; Emmer 2010, 54; Adamowsky 2015, 89. The recent cryptozoological texts, such as that written by Charles Paxton and R. Holland, state that the narrative of a sea monk might have derived from the sighting of an angel shark. Paxton & Holland 2005.

118 Latva 2014.

119 The two giant-sized cephalopods discovered in Iceland in the seventeenth and eighteenth centuries were the subject of the first conference paper that Steenstrup delivered about enormous cephalopods at the Scandinavian Scientists Conference in Copenhagen in 1847. The summary of the lecture was published as "Meddelelse om tvende kiæmpestore Blæksprutter, opdrevne 1639 og 1790 ved Islands Kyst, og om nogle andre nordiske Dyr." in 1849. Steenstrup 1849; Steenstrup 1962, 9–13.

120 Steenstrup 1849, 955; Steenstrup 1962, 13.

121 Steenstrup 1898, 420–22; Steenstrup 1962, 268–70.

122 Harting 1861, 13.

123 Harting 1861, 7.

124 Melville 1922 [1851], 352.

125 Harting 1861, 8.

126 See e.g. Bowler 1992, 67–68.

127 Harting 1861, 8–9.

128 Heuvelmans 1974b [1958], 338–40; Heuvelmans 2006 [1958], 182–83.

129 See e.g. Ruse 2005; Engels & Glick 2008.

130 See e.g. Ellis 1999, 60–65; Roper 2007, 121; Emmer 2010, 54; Adamowsky 2015, 89.

131 See Earle 1977, 39; Barrère 2014, 82–83.

132 See Steenstrup 1849; Steenstrup 1855a; Steenstrup 1855b. See also Steenstrup 1898; Steenstrup 1962.

133 See Steenstrup 1898. About Steenstrup's life, see Spräck 1962; Knudsen 1980.

134 Steenstrup 1858a; 1858b; 1858c; 1858d.

135 Steenstrup 1880, 77; Steenstrup 1962, 55.

136 *Algemeene Konst- en Letterbode* 1.11.1856; Harting 1861, 10.

137 Chenu 1858, 108; Goodrich 1859, 496–502.

138 Goodrich 1859, 502.

139 Tryon 1879, 183.

140 For instance, the American malacologist Addison Verrill, who became a leading giant squid expert in the 1880s, mentioned that he had to interpret Steenstrup's discoveries about the giant squid from Harting's paper. Verrill 1879, 239.

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Part III

The period of cephalopod monsters, 1861–99

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5 The late nineteenth-century encounters with giant-sized squid

The late nineteenth century was a time of vast changes, for instance, in politics and society. Crimean war in 1853–56 waved European politics. Another conflict was the American Civil War from 1861 to 1865. Austrian-Hungary formed a union in 1867 and Germany unified in 1871. In the United States, there occurred a mass migration to the American western frontier, known better from the popular culture by the name Wild West. The period after the Civil War has also been called the Gilded Age of the United States, which was an era of fast economic growth. During this time, millions of Europeans went to the United States in the hope of a better future. In Great Britain, the latter part of the nineteenth century has been characterized as a Victorian era, named after Queen Victoria, whose reign lasted from 1837 to 1901. In France, the Belle Époque began after the beginning of the Third French Republic in 1870. During the late nineteenth century, almost all Africa and parts of Asia were conquered by the European powers.

Before anything, the late nineteenth century was an era defined by speed, dynamism, and the belief in continuous progress. Various new inventions were made, and a lot of these discoveries were displayed in the first Great Exhibition held in London in 1851. New products such as rubber and high-speed locomotives were displayed to millions of people. Especially, the development and growth of electrical technologies hastened the advancement of telecommunications. For instance, the Transatlantic telegraph cable was laid at the bottom of the Atlantic Ocean in the 1850s. Soon after, the telegraph network widened and connected almost the whole globe, which dramatically changed the speed of information. Improvements in postal services also hastened the availability and circulation of information. In addition, there occurred major developments in transport and mass transit. For instance, the world's first underground railway was built in London.

These developments did not, however, occur only on the ground. One of the major changes in the seas was the end of the age of sail when the sea-going steamboats began to replace the sailing ships. This change did not, of course, occur in one night and sailing ships were still used, for instance, to transport cargo until the first part of the twentieth century. Nevertheless, the steamships represented something new and modern. The sperm whaling industry also began to decline as the oil from the whales was replaced by cheaper and more efficient kerosene. However, more people went to the seas in the late nineteenth century than in the first part of

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the century. Scheduled sailing ship traffic began to grow in the Atlantic. As the voyages had previously lasted more than 20 days, the fastest ships crossed the Atlantic Ocean in the late nineteenth century almost in a week. Steamship companies also began to focus on the convenience of the travels with entertainment, although mainly for the first-class passengers.

Many of the new developments in sea transport surely increased the enthusiasm to go on a sea voyage, but they also distanced people from the sea environment as many of the new ships were massive and there were a lot of other things to do than observe and admire the sea. Nevertheless, there were still many seafarers and fishermen observing the sea while their sea journeys, and they occasionally happened to witness a giant-sized squid. This chapter discusses seafarers' and fishermen's perceptions of enormous squid from the 1860s to the 1890s.

The gift of the sea or the monster from the realm of fable?

Most of the people who happened to encounter enormous squid during the late nineteenth century, perceived these squid in the same ways as those who had come across them in the previous century; that is, they understood giant-sized squid mainly as useful and/or a curiosity because of their extraordinary size. However, perception of enormous squid encountered in nature as monsters also began to occur after the 1860s, because the representations of monster octopuses that increasingly appeared in different publications during the late nineteenth century made people imagine they saw such a creature. This monsterization of a giant-sized squid was, however, a rare phenomenon among those who witnessed these animals until the 1890s. Among seafarers, widespread understanding of large squid as the animals of ancient myths and as sources for various sea monster stories did not occur until the twentieth century.

Altogether, seafarers were the largest group of people who encountered enormous squid in the late nineteenth century, as in the previous 100 years.[1] However, whalers were no longer the majority of these seafarers, as the sperm whaling industry declined.[2] Whereas the writings by whalers about giant-sized squid diminished during the late nineteenth century, the number of other texts explaining encounters between sizeable squid and fishermen grew.

The reason for the growing number of such sources was above all the increase in popular interest towards cephalopods after the 1860s.[3] This enthusiasm made people inform biologists as well as newspapers about the sizable squid that local fishermen discovered. The fishermen who experienced the encounters did not themselves write accounts of them, just as they had not written such descriptions earlier.[4]

Modern studies of the giant squid emphasize that encounters with the giant squid and fishermen occurred mainly in Newfoundland in the late nineteenth century.[5] This impression rests largerly on the abundant published material about the squid discovered on the shores of this large island or just offshore. However, a comprehensive analysis of sources shows that people encountered enormous squid all over the world from the 1860s to the 1890s. The reason that the Newfoundland encounters became more well-known was that there were more influential persons who wanted to inform the wider public about squid encounters who lived or visited there. The local Presbyterian minister, Moses Harvey, was the most effective of these publicists, who succeeded in writing numerous newspaper articles about enormous squid witnessed in Newfoundland that circulated around America and Europe.[6]

As the following chapters will shows, Harvey was one of the most influential monsterizers of enormous squid. He was a clergyman, but he seemed to be more interested in natural history than religion. Harvey wrote countless of columns regularly in numerous newspapers and magazines throughout the late nineteenth century, from which many dealt with nature and natural history of Newfoundland and near-by area. Harvey also received various honors for his work on natural history and he was, for instance, made a fellow of the Royal Geographical Society in 1886.[7]

Anyway, Newfoundland was not the only place, in which enormous squid made their appearance. Various sources tell us that from the 1860s to the 1890s people also encountered giant-sized squid in the Azores, the Canary Islands, Greenland, Iceland, Ireland, Japan, New Zealand, Norway, and Saint-Paul Island.[8] There may well have been encounters between people and enormous squid in many other places during the late nineteenth century that were not recorded and never came to the notice of a wider audience.[9] As malacologist Richard Dell states, enormous squid appear on the ocean surface or shores more commonly than the published record would indicate.[10] Clearly many late nineteenth-century people did not consider a sighting of enormous squid worth writing down.

The writings about the encounters show that late nineteenth-century seafarers such as fishermen and whalers perceived enormous squid just as they had during the previous 100 years: they saw these squid above all as having utility value. In addition, some of them were curious about these animals, even seeing them as scientifically interesting marine organisms.

Fishermen especially perceived giant-sized squid as animals that could benefit people. On both sides of the North Atlantic these squid provided excellent bait during the late nineteenth century, just as they had earlier.[11] This long and shared history made the giant-sized squid appear familiar animals, for instance, to the Newfoundland fishermen, but they were not the only ones to perceive enormous squid as excellent bait. For instance, Irish and American fishermen also used these squid as bait during the late nineteenth century.[12]

The Irish police officer Thomas O'Connor wrote in a letter sent to *The Zoologist* that the local fishermen saw a giant-sized squid near Boffin Island on the west coast of Ireland in April 1875. According to his letter, fishermen chased the surfaced squid to catch it for bait.[13] Similarly, American fishermen who traveled to fish for cod on the Grand Banks near Newfoundland,[14] discovered many giant-sized squid during the late nineteenth century. Again, they usually used these squid for bait.[15] Captain J. W. Collins gives one of the most extraordinary accounts of American fishermen catching enormous squid. He writes that enormous squid were abundant on the Grand Banks in October 1875. Many floated on the surface and several fishing vessels picked up as many as they could carry. Once again, they wanted them as bait to catch cod.[16]

The sources reveal that in addition to bait, especially Newfoundland fishermen, but also other residents of the island, used the flesh of enormous squid for dogfood. For instance, many of Moses Harvey's articles emphasize the convention of Newfoundlanders to cut up the giant-sized squid they have discovered stranded or floating on the sea to feed their dogs through the winter.[17]

Newfoundlanders also had a habit of using marine animals as fertilizer. For example, they carted large quantities of capelins inland and mixed their remains with peat and earth to fertilize the ground.[18] The islanders also did this with enormous squid they happened to find stranded or floating on the sea surface.[19] Harvey writes that a widow named Mrs. Ledrew and her son chopped up an enormous squid stranded at Cupids, Conception Bay, in 1886, immediately after they had discovered it, and mixed it "with bog and earth for a compost."[20]

According to Harvey, the body parts of enormous squid that Newfoundlanders did not use as bait, fertilizer, or dogfood were either thrown away or used for assorted unusual purposes. One of Harvey's articles mentions that the jaws of a giant-sized squid discovered in Bonavista Bay in 1872 may have been given to children as a toy.[21] The locals tried to make use of all the body parts of the huge squid in whatever way possible.

Unfortunately, it is not so easy to say how fishermen or other coastal dwellers in areas other than Newfoundland used the bodies of sizeable squid: the sources simply do not tell us whether they were cut up as dog food or fertilizer. However, it is most likely that both American and European fishermen mainly utilized these squid as bait because this emerges in various older writings in Europe and North America.[22] Enormous squid were a gift of the sea for these people, not monsters.

What is interesting is that Heuvelmans also mentions in his book that Newfoundland fishermen cut the sizeable squid they found into pieces.[23] However, he does not explore how these fishermen were able to approach these "terror-evoking" animals in the first place. Only once does he observe that the fishermen used the flesh of enormous squid because they were poor.[24] Simply citing the fishermen's poverty, however, hardly gives a sufficient explanation of how they were able to approach an animal that should have paralyzed them with fear. For Heuvelmans this was probably a troublesome detail because it was inconsistent with the idea that seafarers perceived these animals as synonymous with a mythical monster, and it was easier to dismiss the problem with a superficial explanation than to contemplate it further. After all, the mysteriousness of enormous squid was one of the main points of his book.

In addition to fishermen, whalers who still worked in the sperm whaling industry continued to use sightings of fragments of enormous squid to find sperm whales. Interestingly, this method of tracing sperm whales was transferred to the whaling fleets of other nations by American and British whalers. For instance, the article by Portuguese naturalist Albert Girard reveals that remains of giant-sized squid were a common sight in the Azores and that the local whalers who worked in the Azorean sperm whaling industry in the late nineteenth century knew they could be used to detect the presence of whales.[25] According to Robert Clarke, many Azoreans had learned methods of hunting sperm whales when working on American whaling ships during the mid-nineteenth century, and this was probably one of them.[26] Like their predecessors in the whaling industry and the fishermen, whalers primarily saw enormous squid as animals that were useful to them.

The above perceptions of huge squid resulted from the familiarity of squid to these seafarers and Atlantic coastal dwellers. Just as in the late eighteenth and early nineteenth centuries, the majority of these people who witnessed giant-sized squid saw them merely as larger versions of the more commonly seen smaller squid.[27] This is reflected in the Newfoundland and American fishermen's habit of calling these squid "big squid."[28] Similarly, various fishermen and whalers in other locations such as Ireland and the Azores perceived enormous squid as "big" common squid.[29] Thus, to these people, the only unusual feature of the sizable squid was its size.

The size of gigantic squid occasionally evoked curiosity and amazement among people who happened to witness them in the late nineteenth century. Many of these people measured the length of the squids' arms and tentacles. For instance, many of Moses Harvey's informants measured the tentacles of the giant-sized squid that were stranded on the coasts of Newfoundland.[30] Measuring of their tentacles clearly reflects interest in their size.

Further evidence that some people perceived sizeable squid as a curiosity is provided by keeping of parts of them as trophies. For instance, when the crew of the American schooner *B.D. Haskins* encountered an enormous squid on Grand Banks in 1871, which they used as bait, one of the crew members took the beak of this individual as a trophy. This beak was obviously precious to this sailor, because he was not willing to give it away to zoologists, although they offered a fair price for it.[31]

Like the numerous fishermen, Newfoundland children perceived giant-sized squid as a curiosity. The diary of the Newfoundland clergyman Walter Budgen explains how he and some other children reacted to an enormous squid stranded in Lance Cove in 1877.[32] The teacher of these children had given the opportunity to Budgen and his classmates to see the giant-sized squid, which in itself shows that these squid were objects of curiosity. Budgen writes that he and his friends were at first amazed at the enormousness of the squid. Soon after, however, they ripped the squid into pieces and poked at its eyes with sticks.[33] In the end, the children saw it, like the fishermen, as an extraordinary sized animal that was part of everyday life in Newfoundland.

The rise of curiosity about enormous squid was likely contributed to by its increasing zoological importance during the late nineteenth century. Various people on both sides of the Atlantic Ocean felt that they must inform the scientific community about their discoveries of enormous squid, and thereby advance science.[34] However, these people had rarely encountered enormous squid themselves. A few of them did, however; Alfred Girard wrote that Azorean whalers offered a tentacle and a beak of sizeable squid discovered near the islands to the Portuguese naturalist Francisco Afonso Chaves e Melo, who lived on São Miguel Island.[35] They did not, however, informed esteemed malacologists, but delivered these fragments to someone familiar whom they knew to have a zoological understanding of the squid.

Similarly, some Newfoundlanders began to inform Moses Harvey about the sightings of enormous squid after they learned that he had a zoological interest in these animals and could convey the information to renowned scientists who might advance the biological study of these animals. For instance, Harvey writes that the Reverend Alfred Gabriel, working in Portugal Cove, asked the fishermen who discovered the enormous squid in Conception Bay to bring the amputated tentacle of this squid to Harvey because he was "crazy after all kinds of strange beasts and fishes."[36]

There are only two people who encountered enormous squid in nature in the late nineteenth century and had the authority to inform the scientific community about their findings directly. They were the French naval officer Frédéric Bouyer and the French geologist Charles Vélain. Bouyer was a learned naval captain and surgeon, who happened to be interested also in science and natural history. He was one of the founding members of the Academic Society of his hometown Brest and he also published a travel account of a voyage he and his crew did with the corvette *Alecton* from Toulon to French Guiana in 1862–63. Apparently, Bouyer also read a lot contemporary popular-scientific literature.[37] Unlike Bouyer. Vélain was not only interested in science but was an esteemed scholar of geology and a professor of physical geography. He was especially an expert on volcanism. Vélain has been commemorated later in the twentieth century by naming a mountain in the Adelaide Island, lying in the west coast of Antarctic Peninsula, as a Mount Velain.[38]

Bouyer witnessed an enormous squid near Tenerife in 1861, while sailing to French Guiana, and Vélain discovered a giant-sized squid stranded on Saint Paul Island in 1874. Both informed the French scientific community about their finding and wrote about it in French.[39] Their social status and education enabled them to widen the understanding of these animals in a way that contemporary fishermen could not.

Unlike people who perceived enormous squid as a resource or curiosity, the majority of those who understood these squid as scientifically important animals also entangled them in mysterious narratives and stories about giant octopuses. They were usually from the higher social classes.[40] They either monsterized the huge squid in their narratives or used terms such as "monster" to depict the squid.[41] Notably, many of these people had not themselves witnessed these animals in nature. They had only heard about the encounters with giant-sized squid, or been sent pieces of them by those who did discover them.

For instance, Moses Harvey only saw some pieces of squid and two mutilated and dead bodies.[42] Despite this, he wrote the most vivid stories about the encounters that Newfoundland fishermen had with these squid, in which these animals were presented as bloodthirsty monsters. In other words, the monsterization of enormous squid was achieved by various people informing the public discussion about these animals: it did not derive from the squid themselves, but their resemblance to the octopus monsters that had been created in publications since the mid-nineteenth century.

An exception is Frédérick Bouyer's account of an enormous squid he and his crew witnessed near Tenerife in 1861. Bouyer was a seafarer, who saw this squid with his own eyes and explicitly described it as a terrifying and repulsive monster.[43] The reason for this is that he understood this animal more as a monster octopus than a squid. Bouyer's description of the squid, addressed to the French Marshal Jean-Baptiste Philibert Vaillant, shows that he thought he had encountered an enormous octopus like those previously mentioned in the mid-nineteenth century books and novels. Bouyer wrote that "On November 30, 40 leagues to the north-east of Tenerife, at two o'clock in the afternoon, I encountered a monstrous animal which I recognized as the *giant octopus*, whose disputed existence seems relegated to the realm of fable."[44]

Bouyer believed he had witnessed a giant-sized octopus, which he emphasized was thought to be a fabulous animal. This animal had, of course, appeared in natural-historical and popular works since the late eighteenth century. Bouyer's description is very close to the account of a vicious and horrible octopus in Jules Michelet's esteemed book *La Mer* (1861).[45] In other words, Bouyer only loosely based his account on the animal itself – instead he associated it with the popular representations of monster octopuses.

In his letter, Bouyer once mentions that the animal was a gigantic squid.[46] So he understood that the animal resembled a squid, but unlike fishermen and whalers, he did not perceive this animal as an overgrown "common" squid, but rather as a monster octopus that was similar to a squid. Evidently Michelet's *La Mer* and other contemporary literature depicting enormous octopuses had such a strong influence on Bouyer that he assumed that a squid-like animal of enormous size had to be a monster octopus. Thus, it was the extraordinary size of the squid that determined Bouyer's interpretation of what he saw – an animal well presented in public discussion since the late eighteenth century. Bouyer was a navy officer and surgeon, who did not have the same practical approach to squid as fishermen and whalers.[47] He was not as familiar with the differences between squid and octopuses as those who had frequent contact with them.

Bouyer's description is the only account of enormous squid from the late eighteenth to the late nineteenth century, in which a person witnessing this animal perceived it as a monster. Despite this exceptionality, it strongly influenced how people began to understand giant-sized squid during the late nineteenth century.[48] This was probably because Bouyer had the opportunity to inform contemporary French naturalists about the cephalopod he witnessed directly. When the crew of *Alecton* put in at Tenerife, Bouyer told the French naturalist Sabin Berthelot, who worked in the local French consul,[49] about his discovery, and Berthelot then informed the French Academy of Sciences, using the very same language as Bouyer when describing the animal.

When the French Academy discussed Bouyer's and Berthelot's letters about the Tenerife cephalopod-monster in late 1861,[50] none of the meeting participants questioned the way in which the squid was described.[51] There were probably two reasons for this: first, these letters described the animal like an octopus, which had been represented as a monster in the scientific discussion for decades, and second, both Bouyer and Berthelot belonged to a higher social class than, for instance, ordinary seafarers and fishermen. Contemporary naturalists were prepared to trust the words of such men: after all, they were not dealing with uneducated folk like sailors who were supposedly prone to superstition and wild imagining.[52]

Although Bouyer's description of the huge squid impacted the understanding of enormous cephalopods in the late nineteenth century, it and subsequent works repeating the description has had more influence on recent studies of giant squid. The majority of these studies have taken Bouyer's account as a representation of how people in the past understood enormous squid.[53] It is ironic that Bouyer's account, which is the exception among the many first-hand accounts of sightings of giant-sized squid during the nineteenth century, has become by far the most well-known.

Altogether, it is clear that it was not seafarers who perceived large squid as monsters, nor were they prone to seeing monsters every time something unusual appeared in the sea. It was in fact people belonging to the higher social classes, who were familiar with accounts of octopus monsters that saw the huge squid as similar monsters. Slowly, however, the work of such people as Bouyer which were recontextualized and reiterated in the public discussion, also began to influence seafarers towards the end of the nineteenth century.

It is possible that the residents of the French fishing community in Saint Paul Island in the Indian Ocean,[54] who according to Charles Vélain feared a gigantic cephalopod that appeared almost every year in the middle of a school of fish, were infected by the representations of monster cephalopods continuously published in French journals and books since the mid-nineteenth century.[55] Similarly, the writings by Moses Harvey began to influence Newfoundland fishermen from the 1870s onwards. The short article about the enormous squid stranded in Bonavista Bay, Newfoundland, in 1872, and written in the Newfoundland local newspaper, *The Morning Chronicle*, splendidly reflects the admiration of fishermen for these animals, as it states that this squid was a "wonderful creature."[56] But this article was the last that appeared in Newfoundland newspapers, in which the writer represented the squid from the perspective of the local seafarer culture. After that, Moses Harvey wrote most articles about these animals and depicted them as monsters. After Harvey began to dominate the information flow, stories of enormous squid trying to sink boats began to appear, which, however, appeared to be seafarers' inventions.[57]

Despite the influence of written descriptions of enormous cephalopods as monsters, they did not have an extensive impact on seafarers' conceptions of them for some years. Many Newfoundland fishermen still understood these animals as sources of bait, dog food or fertilizer during the last decades of the nineteenth century. In fact, this emerges in Harvey's writings. He wrote several newspaper articles from the late 1870s to the 1890s, in which he criticized the local fishermen because they did not understand the "true value" of these squid.[58] He stated, for instance, in *The Morning Chronicle* on March 11, 1879:

> But it is a matter of deep regret that our fishermen cannot be led to understand the value of these animals. In these lonely outlying places no newspapers is ever seen, and little intelligence from the outside world ever penetrates; and to a fishermen a devil-fish is only "a big squid" to be converted into dogs' meat or manure.[59]

Harvey's quote perfectly reflects the difference in understanding enormous squid between seafarers and erudite people during the late nineteenth century. Seafarers such as fishermen and whalers still mainly perceived giant-sized squid as just one marine animal among many, whereas people who knew of the representations of enormous octopuses in contemporary literature or treatises popularizing science, undoubtedly accepted that sizeable cephalopods were monsters.

Encountering a living enormous squid

The writings, describing the late nineteenth-century sightings of enormous squid, differ from the earlier documents because many of these documents explicitly state whether the squid was still alive when encountered. Such encounters are very interesting because previous modern studies have argued that people understood giant-sized squid as monsters throughout history - because the body and the motion of such living squid evoke fear and repulsion.[60]

Most of the late eighteenth- and early nineteenth-century documents describing encounters with enormous squid do not mention whether the squid was alive or not. That is because it was not very important for the people who wrote about these encounters. This changed in the late nineteenth century, when the actions of living squid began to emerge in documents describing encounters with them. Captain Bouyer was among one of the first people who described the motion and agency of the enormous squid, which of course he supposed to be a monster octopus, in detail.[61] Similarly, when he wrote about encounters with enormous squid Moses Harvey usually mentioned whether the animal was alive or not.[62] Mentioning this became more common generally as the common perception of enormous cephalopods as monstrous creatures began to increase after the 1860s.

With the exception of Bouyer, all the people that wrote about living enormous squid encountered by seafarers in the late nineteenth century did not witness these animals themselves. Thus, the agency they described was almost always that of the imagined octopus-monsters, not the actual squid. Even Bouyer's famous account of the Tenerife squid was largely based on what he had read about monster octopuses. So the actual squid had only a minor role in writings that claimed to give vivid and minute descriptions of their bodies and agency.

By reading the sources carefully, it is, however possible to detect hints of what actually occurred in these encounters. I have noticed only one source that describes a giant-sized squid being hostile towards the fishermen who found it. However, a careful analysis of this occurrence reveals that the squid had a reason to act truculently. The occurrence in question was the encounter between an enormous squid and fishermen in Conception Bay, Newfoundland, in 1873.[63] Otherwise, all the enormous squid encountered by fishermen appear to have been afraid rather than ferociously attempting to kill their captors.

Most of the writings indicate that enormous squid encountered when they still were alive were alarmed and attempted to escape when they noticed a human presence. The enormous squid that people discovered stranded on the beach desperately attempted to return to the sea when they noticed people approaching them.

Several sources describing encounters between enormous squid and humans in Newfoundland support this argument. For instance, when the two fishermen discovered the giant-sized squid stranded in Catalina, the squid tried to escape with all its strength.[64] The enormous squid discovered stranded at Lance Cove in Newfoundland on November 1877 desperately tried to escape back to the ocean, but the tide left it on the beach.[65] Likewise, the enormous squid that fishermen encountered near Thimble Tickle, Newfoundland, in 1878, tried to escape after noticing the fishermen.[66]

The distress of these squid emerges from their agency, when they wave their arms and tentacles, spout streams of water from their funnels and above all eject ink, which is the typical way for a squid to act when it feels threatened.[67] Nevertheless, none of these squid managed to escape. Instead, they were all cut to pieces for dog meat.[68]

Similarly, the sizeable squid that people encountered at sea almost invariably tried to elude fishermen. For instance, the giant-sized squid discovered near Boffin Island in Ireland immediately swam away from the boat after it had noticed the fishermen approach.[69] The sources reveal that enormous squid stranded and cut off from their natural habitat in anew and strange world, were actually frightened and bewildered animals that were afraid of approaching humans. Thus, these squid acted in precisely the opposite way to what was claimed in the horror stories that were circulating in the late nineteenth century and thereafter.

The analysis of the most iconic monster-stories about enormous squid from the perspective of the squid gives a whole new meaning to these narratives. Let us take, for example, the narrative about the giant-sized squid that the crew of *Alecton* witnessed near Tenerife in 1861 and Moses Harvey's account of the sizeable squid that "attacked a fishermen's boat" in Conception Bay in 1873.

Bouyer, the captain of the *Alecton*, witnessed an enormous squid in 1861. Among other things, he explains the monstrosity of this cephalopod according to its appearance and movements. Bouyer mentions in his description that the cephalopod was a terrible monster, able to capsize boats and paralyze men. But he virtually ignores the action of the squid itself. A careful reading of the account reveals that the supposed monster tried to escape from the *Alecton*, which approached it. It also ejected ink, which squid do when they try to deter predators.[70]

Thus, this terrible and repulsive embryo, as Bouyer described it, was actually the victim of humans that tried to capture what they thought was a strange sea monster. Dramatically, Bouyer commanded the crew to shoot the squid before they tried to catch it,[71] which indicates that he genuinely believed this squid to be an incarnation of the vicious and enormous octopus not what it actually was, an enormous squid individual which was probably dying as it had risen to the surface from its natural habitat.[72] Its agency bore no relation to what Bouyer thought it was doing, acting like a savage monster. The body of the squid, which was enormous and resembled an octopus, inspired Bouyer's account, not its actions.

Moses Harvey's account about the enormous squid that he described as attacking the fishing boat in Conception Bay, similarly gives a different picture if one analyzes the agency of the squid. Harvey writes that the fishermen in Conception

Bay, noticed "an object," which they mistook as debris and hit it with the boathook. After that, the supposed debris came to life, whirled its arms, and attempted to entwine its tentacles around the boat.[73] As Richard Ellis and some other writers have noticed, Harvey changed the details in some of his articles as he got older. In addition, the description of the same incident by the geologist Alexander Murray, who also informed his colleagues about it, differs from Harvey's. It is reasonable to doubt that the attack ever happened.[74]

Whether the enormous squid attacked the boat or not, one of the fishermen is said to have hit it with a boathook. Many animals, including humans, defend themselves when another animal tries to hurt them.[75] Thus, the squid may well have entwined its tentacles around the boat because it had been attacked. As most of the sources demonstrate, squid usually tried to escape when they notice a human. The squid of this tale escaped, leaving an ink flow, after one of the fishermen cut its tentacles.[76] Whether this event occurred or not, or whether it happened in the way described or not, the squid cannot be regarded as a bloodthirsty monster trying to eat the fishermen, as Harvey suggested in his numerous articles.[77] It was the efforts of this squid in defending itself that inspired Harvey to describe it like the monster octopus well-known to transatlantic culture by the 1870s.

So, both Harvey's description of the squid in Conception Bay and Bouyer's account of the squid near Tenerife, which have inspired many later accounts emphasizing the monstrosity of giant-sized squid, were not inspired by the actual squid, but the popular discourses of enormous and vicious octopuses. The squid's agency, moreover, was misinterpreted and its actions emphasized selectively to conform with the monster discourse. Harvey and Bouyer were both very keen on the octopus terror stories.[78] Thus, it is understandable that they got carried away in their enthusiasm when they believed they had discovered the monster of the novels and scientific books in real life.

As mentioned earlier, the majority of the seafarers did not fear live and enormous squid. Instead, they were eager to kill any that they came across, but they were cautious because any large sea animal had the potential to do damage if challenged much as the whale had. Giant squid had long tentacles, which undoubtedly impeded their capture.[79] If fishermen tried to injure these tentacles, the objective was to make the squid defenseless as soon as possible.

In most of the late nineteenth-century cases in which fishermen discovered a sizeable squid alive, they attempted to cut up the arms of the squid before direct contact with the animal, or instantly killed it.[80] For instance, when the three Irish fishermen noticed the enormous squid floating on the surface near Boffin Island in 1875, they could not just abandon such prized bait. According to the police officer O'Connor, who wrote the description of this encounter, the fishermen, cautious about the size and length of the squid's arms, devised the strategy that they would cut these off before hauling the squid onto the beach. After they seized the first arm of the squid, the animal panicked and escaped at a "tremendous rate" out to sea. The fishermen chased the squid, according to O'Connor, for two hours. The progress of the chase was slow because the fishermen avoided close contact with the squid, instead hanging on its rear and cutting off a single arm at a time. After the fishermen considered that the squid was safe enough to approach, they brought it alongside their boat and severed its massive head to carry it more easily ashore.[81]

In the Boffin Island case, as in the most encounters with enormous squid in Newfoundland, the fishermen aimed to kill the squid immediately. Many of these sources about Newfoundlanders encountering giant-sized squid mention that they attempted to get the squid out of the water entirely to kill it quickly and safely. The reason was no doubt to prevent squid from turning in the water or splashing water with its tentacles. For instance, the giant-sized squid stranded in Catalina in 1877 was still lying in the ebbing tide and lashed the water with its massive tentacles when the fishermen found it. They dared not approach it till the tide had gone further out and the squid was on dry land.[82] After that, they apparently killed it, as the squid was out of its element and could not, for instance, turn around as it could in water.

Similar events to those in Newfoundland occurred in Thimble Tickle in 1878 and in James's Cove in 1879. In Thimble Tickle, fishermen waited for a squid that had begun to struggle to escape back into the sea exhausted itself. After the squid had settled, they threw a grapnel with a rope towards the squid, which sunk into its flesh, and fastened the rope to a tree trunk nearby. The squid could not then be washed away with the tide and died soon after, and the men cut it up for dogfood.[83] In James's Cove, fishermen struck a live and enormous squid that had been near the landing stage with an oar. After that the squid "immediately struck out for the shore and went quite far up on the beach." The fishermen put a rope around the squid and hauled it further ashore before cutting it to pieces.[84]

In all the examples mentioned, fishermen wanted to kill the squid and devised methods of doing it so they could make use of the squid bodies. Evidently, they had safety in mind when they made their plans, but they also wanted kill and cut up the squid quickly. This was impossible to do in water. These sources also indicate that the fishermen perceived an enormous squid not as a monster but as their quarry, albeit one with which they had to be little careful because of its size.

The caution of the fishermen should not be confused with fear. When, soon after the *Alecton* incident, some Canarian fishermen were interviewed by the French naturalist Sabin Berthelot, they mentioned that they had seen enormous squid many times in the sea, but had not dared to seize them,[85] he does not mean that they perceived these animals as monsters, but unfortunately some modern studies have interpreted Berthelot's account to mean that enormous squid spread terror among seafarers.[86] More likely these Canarian fishermen were merely being cautious: like the Newfoundland fishermen mentioned above, they knew it was risky and difficult to tackle a huge squid at sea.

Similarly, the way in which some people were frightened when enormous squid surprised them cannot be explained as terror evoked by these animals. For instance, the way in which a live and enormous squid appeared on the shore at Lower Island Cove, Conception Bay, in 1890 frightened a little boy,[87] but this is hardly evidence that there was a wide-ranging understanding of the monstrousness of these squid in transatlantic culture. All sorts of things can startle people and other animals if they appear unexpectedly, including creatures that no-one would ever think of as inspiring terror.[88]

The weight of evidence tells us that the enormous squid did not evoke terror and repulsion among seafarers, even when encountered alive. Seafarers perceived live and enormous squid as something to be hunted if possible, and perhaps more challenging to hunt than a common squid. This challenge had nothing to do with bodily features such as "paralyzing" eyes or tentacles: it was simply a question of showing some caution because of the size of these squid. Their swiftly swinging arms and tentacles could harm fishermen attempting to kill them and they would attempt to defend themselves. Bouyer's account alone suggests that enormous squid were repulsive and aggressive, and it was not actually based on the actions of any squid.

Notes

1 The various newspaper articles by Harvey and all the other late nineteenth-century sources concerning enormous squid clearly indicate that mainly fishermen and whalers encountered these squid during the late nineteenth century. According to the sources, all the other seafaring groups, including the sailors of the merchant navy or naval personnel, not to mention scientists, rarely encountered giant-sized squid. It is possible that other sailors, like fishermen and whalers, witnessed these squid more often, but sources for such encounters, if they were ever written, are either difficult to find or lost. See e.g. *Montreal Gazette* 1.1.1878; *The Globe* 8.2.1879; *Montreal Gazette* 29.12.1879; *Montreal Gazette* 28.11.1881. See also Verrill 1879, 177–78.

2 As spermaceti oil lost its commercial appeal, sperm whaling abated. This change must have led to a reduction in the number of encounters between giant-sized squid and whalers. See e.g. Dolin 2007, 353–69.

3 This enthusiasm, the *cephalomania*, was due mainly to the sensation caused by Hugo's novel *Les travailleurs de la Mer* (1866). See e.g. Lee 1875, xv; Babb 2006, 20–24.

4 It was known and erudite townspeople such as clergymen and police officers that wrote about the encounters between fishermen and enormous squid.

5 See e.g. Aldrich 1967a; Aldrich 1967b; Aldrich 1969; Heuvelmans 1974b [1958], 379–80; Ellis 1999, 86; Heuvelmans 2006 [1958], 209; Emmer 2010, 89.

6 I focus on Moses Harvey's phenomenal skill in disseminating knowledge as I deal with his contribution to the wide monsterization of enormous squid in Chapter 7.

7 See, e.g. Aldrich 2022 [1994].

8 On the encounters in places other than Newfoundland, see the following: the Azores, Girard 1892, 214; Joubin 1895, 34; Joubin 1900, 102; also Pfeffer 1912, 24, 27; the Canary Islands, "Poulpe géant observé entre Madère et Ténériffe." 1861, 1267; Greenland, Posselt 1898, 279; Iceland, Posselt 1898, 279; also Roeveld 2002, 727; Ireland, More 1875a; More 1875b; O'Connor 1875; O'Brien 1880, also Ritchie 1918, 137; Japan, Mitsukuri & Ikeda 1895, also Pfeffer 1912, 27; New Zealand, Kirk 1880, Kirk 1882, Robson 1887, 155–57, Kirk 1888; Norway, Storm 1897, 99, also Grier 1933, 19; Saint-Paul Island, Vélain 1875, 1002–03, Vélain 1877, 81–83.

9 For instance, the knowledge of various sightings of enormous squid that occurred in Norway during the 1870s has not become publicly known until the twentieth century or even more recently. According to the Norwegian zoologist James A. Grieg, three sightings of giant-sized squid occurred in Norway from the 1870s to the beginning of the 1880s, which were not brought to the knowledge of the wider public until the twentieth century. People discovered an enormous squid washed ashore near Buøy in 1874 and two similar squid stranded near Tønsvik in 1874. The giant-sized squid discovered in Iceland in 1879 did not became publicly known until the biologist Martina Roeveld mentioned it in her article in 2002. Grieg 1933, 19; Roeleveld 2002, 727.

10 See Dell 1970. See also Ellis 1999, 93.

11 See, e.g. *Citizen* 5.10.1870; Packard 1873, 91; O'Connor 1875, 4502–03; *The Globe* 19.4.1875; *The Globe* 8.6.1875; *The Morning Chronicle* 3.7.1875; *Montreal Gazette* 1.1.1878; *The Globe* 8.2.1879; *Montreal Gazette* 29.12.1879; *Montreal Gazette* 28.11.1881; *Montreal Gazette* 4.10.1882; *Montreal Gazette* 25.11.1886; *Montreal Gazette* 8.1.1891. See also Verrill 1879, 176–77; Verrill 1880–81, 396–97; Arnold 1979, 7; Aldrich 1991. The sources indicate that the Newfoundlanders' way of catching, or *jigging*, the squid for cod bait was widely known in transatlantic culture. For instance, the American author Samuel Goodrich mentions that Newfoundlanders were known for their habit of catching squid for bait. Goodrich 1859, 501.

12 See, e.g. Packard 1873, 91; O'Connor 1875, 4502–03; Verrill 1880–81, 396–97. See also the footnote in Verrill 1879, 181.

13 O'Connor 1875, 4502. See also More 1875a.

14 The Treaty of Washington between Britain and the United States once again recognized American rights to fish in Newfoundland waters from the 1870s onwards. See Cadigan 2009, 136–37.

15 See, e.g. Packard 1873, 91; *Montreal Gazette* 19.9.1889; Verrill 1880–81, 396–97.

16 Verrill 1880–81, 396–97. See also Linton 1915, 749–50.

17 See, e.g. *The Globe* 19.4.1875; *The Globe* 8.6.1875; *Morning Chronicle* 3.7.1875; *The Globe* 15.12.1877; *The Globe* 8.2.1879; *The Morning Chronicle* 11.3.1879; *Montreal Gazette* 28.11.1881; *Montreal Gazette* 8.1.1891.

18 See *Montreal Gazette* 8.8.1877.

19 See, e.g. *The Globe* 9.11.1874; *Montreal Gazette* 25.11.1886; *Montreal Gazette* 8.1.1891.

20 *Montreal Gazette* 25.11.1886.

21 *The Globe* 9.11.1874.

22 See, e.g. Cartwright 1792, 45; Mitchill 1815, 390; Steenstrup 1849, 953–54; Steenstrup 1898, 420–21; Steenstrup 1962, 11, 268. American, European and Japanese fishermen utilized squid as food and bait still in the twentieth century, see Arnold 1979, 5–9.

23 See Heuvelmans 1974b [1958], 372–378; Heuvelmans 2006 [1958], 204–07.

24 Heuvelmans 1974b [1958], 372; Heuvelmans 2006 [1958], 204.

25 Girard primarily based his knowledge of the enormous squid in the Azores on his conversation with a Portuguese naturalist, Francisco Afonso Chaves e Melo. Girard 1892, 216.

26 See Clarke 1954, 287–305.

27 See, e.g. *The Royal Gazette* 9.12.1873.

28 See, e.g. *Montreal Gazette* 9.1.1874; *The Globe* 9.11.1874; *The Globe* 19.4.1875; *Montreal Gazette* 4.10.1882; *Montreal Gazette* 25.11.1886; *Montreal Gazette* 19.9.1889. See also Verrill 1879, 177.

29 See O'Connor 1875, 4502–03; Girard 1892, 214–16.

30 For instance, The Newfoundland judge and politician Thomas R. Bennett measured the enormous squid that appeared in Coomb's Cove, Fortune Bay, in 1872. Mr. John Duffet measured a giant-sized squid that was stranded at Lance Cove in November 21, 1877. *The Globe* 9.11.1874; *The Globe* 15.12.1877; *Harbor Grace Standard* 6.12.1879; *The Morning Chronicle* 9.12.1879; *Montreal Gazette* 25.11.1886. See also Verrill 1879, 183, 190–91. On T. R. Bennet, see Smallwood & Pitt (eds.) 1981, 177–78. In addition to Harvey's informants many other persons who discovered these squid measured them. For example, the vice-captain of the *B.D. Haskins* measured the squid he found in 1871. Packard 1873, 91.

31 See, e.g. Packard 1873, 92.

32 Reverend Walter Budgen was born in Trinity, Newfoundland, in 1868. He died in Pentley, Random Island, Newfoundland, in 1946. PSPC.

33 See PSPC.

34 In addition to Moses Harvey, there were several people, such as the Newfoundland reverend A. Munn and the Irish police officer Thomas O'Connor, who informed the scientific community about the enormous squid stranded near their home towns. A. Munn told the scientific community about the squid that was stranded in Bonavista Bay in 1872, while O'Connor informed the journal *The Zoologist* about the occurrence in 1875, after he had heard that local fishermen had caught a sizeable squid. See O'Connor 1875; Verrill 1879. 184.

35 Girard 1892, 214.

36 See, e.g. *The Morning Chronicle* 21.11.1873; Harvey 1899, 733.

37 See, e.g. Bouyer 1867; Kerviler 1893, 118.

38 Motter (ed.) 1912, 1047.

39 "Poulpe géant observé entre Madère et Ténériffe." 1861; Bouyer 1862; Bouyer 1867, 19–23; Vélain 1875, 1002–03; 1877, 83.

40 As I have demonstrated in this section, the people who saw enormous squid as scientifically important animals and understood them as monster-like entities were usually the erudite people living in coastal towns, such as the clergy or police officers. There were, as usual, exceptions to their attitudes. The Newfoundland clergyman A. Munn, who made a report to the scientific community about the squid that had been stranded in Bonavista Bay in 1872, did not define this animal as a monster.

41 For instance, one of the informants of the New Zealand naturalist William Thomas Kirk, as well as Kirk himself, described the enormous squid discovered in New Zealand from 1879 to 1887 as monsters. Kirk undoubtedly mentioned these squid as monsters because he, likewise Moses Harvey, saw them as representing Victor Hugo's octopus-monster, *the devilfish*. The informant of Kirk, F. H. Meinertzhagen, who understood one of the giant-sized squid discovered in Waimarama in 1870 as a monster, implied in his letter to Kirk that the Maoris also perceived the squid as a monster. It may be that the Maoris, unlike the fishermen living in the northern Atlantic, regarded sizeable squid as monster animals, or it may be that Meinertzhagen interpreted the Maori as understanding enormous squid as a monster, because he also felt like that. See Kirk 1880.

42 It seems that Harvey only witnessed a tentacle cut from the squid that fishermen discovered in Conception Bay in 1873, and the carcasses of two giant-sized squid, one found by Newfoundland fishermen in Logy Bay in 1873 and the other in Catalina in 1877. Harvey saw the squid discovered in Catalina, when the fishermen brought it to St. John's to be publicly exhibited in September, 1877. See e.g. *Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873; *Citizen* 2.12.1873; *Montreal Gazette* 5.12.1873; *Montreal Gazette* 17.10.1877. See also Harvey 1873; Harvey 1874b. Murray and O'Connor only saw portions of enormous squid after fishermen had already made used of them. Murray 1874, 162; O'Connor 1875, 450 3

43 "Poulpe géant observé entre Madère et Ténériffe." 1861, 1264–65; Bouyer 1862; Bouyer 1866; Bouyer 1867, 19–23.

44 Le 30 novembre, à 40 lieues dans le N.-E. de Ténériffe, à deux heures de l'après-midi, j'ai rencontré un monstrueux animal que j'ai reconnu pour *le Poulpe géant*, dont l'existence contestée semble reléguée dans le domaine de la fable. "Poulpe géant observé entre Madère et Ténériffe." 1861, 1264.

45 See Michelet 1861a, 199–206; Michelet 1861b, 194–201. See also "Poulpe géant observé entre Madère et Ténériffe." 1861. The connection between the monster octopus that Michelet represents in his *La Mer* and Bouyer's depiction of the cephalopod that he witnessed near Tenerife is analyzed more in Chapter 6.

46 "Poulpe géant observé entre Madère et Ténériffe." 1861, 1264.

47 According to Bouyer's interests and merits, one can draw that Bouyer undoubtedly saw all kinds of animals mainly from the perspective of popular science and contemporary literature. See, e.g. Kerviler 1893, 118.

48 Only a few documents about whalers' perceptions of enormous squid such as the letters of whaling captains in Maury's *Explanations and Sailing Directions* had been published before Bouyer's account. See e.g. Maury 1853, 293, 297, 311. Bouyer's description did not attract much notice in public discussion, but it has appeared in numerous books and journals throughout the late nineteenth century and since.

49 See, e.g. Rosa 2013, 26.

50 Bouyer and Bertelot did not send their letters directly to the French Academy. Bouyer addressed his letter to the French marshal Jean-Baptiste Philibert Vaillant, who conveyed the letter to the Academy. Berthelot sent the letter to his colleague Alfred Moquin-Tandon, who read it in the session discussing Bouyer's letter. See "Poulpe géant observé entre Madère et Ténériffe." 1861.

51 The report of the session of the French Academy of Sciences discussing Bouyer's and Bertelot's letters mentions no objections towards their arguments. The French popularizer of science, Arthur Mangin, was also amazed at the huge squid in the third edition of his *Les mystères de l'océan* (1868). See "Poulpe géant observé entre Madère et Ténériffe." 1861. See also Mangin 1868, 327.

52 As various historians emphasize, the high social status of a witness gave their work credibility. This applies to the natural-historical accounts of the nineteenth century. See e.g. Zuidervaart 2010, 41–44. See also Rozwadowski 2005, 136–37. For instance, Henry Lee writes in his *Sea Monsters Unmasked* (1883) about Bouyer's and Berthelot's accounts that "these are statements made by men who, by their intelligence, character, and position, are entitled to respect and credence; and whose evidence would be accepted without question or hesitation in any court of law." Lee 1883, 41.

53 The majority of the recent writings about the history of the giant squid refer to the account of the encounter between the crew of *Alecton* and the enormous squid when they attempt to describe the historical contact between humans and these squid. See e.g. Caillois 1973, 64–71; Muntz 1995, 19–22; Ellis 1999, 5, 78–79; Heuvelmans 2006 [1958], 185–95; Blackmore 2009, 22; Barrère 2014, 38, 83–93, 138; Westwood & Moss 2015, 61–78; Adamowsky 2015, 89–90.

54 Saint Paul Island, better known as Île saint-Paul, is part of the French Southern and Antarctic Lands in the Indian Ocean. It should not be confused with other islands with the same name.

55 Various French popular books and journals emphasized the monstrousness of enormous cephalopods during the 1860s. See, e.g. Michelet 1861a, 199–206; Bouyer 1862; Mangin 1864, 280–92; Moquin-Tandon 1865, 309–17; Bouyer 1866, 275–76; Figuier 1866a, 462–69; Figuier 1866b, 462–69; Bouyer 1867, 19–23; Landrin 1867, 21–52; Mangin 1868, 312–28; Meunier 1871 [1868], 234–60; Zurcher & Margollé 1868, 135–42; Landrin 1870, 21–45. See also the novels by Victor Hugo and Jules Verne: Hugo 1866, 83–104; Verne 1871 [1869], 386–96.

56 Moses Harvey did not write this article. As I will demonstrate in the following chapters, Harvey was so deeply inspired by the image of monster octopuses provided in contemporary literature that he could not understand these squid as wonderful creatures. This was the last article in the Newfoundland newspapers that did not monsterize giant-sized squid and was not written by Harvey. *The Morning Chronicle* 11.10.1872.

57 Harvey writes that a fisherman had told him that the vessel in which he and his companions had sailed in the northern bays of Newfoundland had suddenly begun to sink. Its deck was almost at the level of the water when it suddenly rose. Thereafter, these fishermen saw an enormous squid "disporting on the surface of water." Undoubtedly, this tale was one of those stories in which the interviewee tells to the interviewer what he assumes the latter would want to hear. These narratives are challenges to oral historians today, and apparently Harvey also realized this quite quickly, as he stopped referring to this story within a year of hearing it. Harvey mentioned this story in two newspaper articles, published in January and February 1874. But in August 1874 he mentioned in one of his articles that the only occasion he knew of when giant-sized squid had tried to sink

a boat was the encounter between fishermen and enormous squid in Conception Bay in October 1873. *The Citizen* 6.1.1874; *Montreal Gazette* 9.1.1874; *The Royal Gazette* 10.2.1874; *The Citizen* 11.8.1874.

58 See e.g. *Globe* 9.11.1874; *Globe* 19.4.1875; *Globe* 8.6.1875; *Morning Chronicle* 3.7.1875; *Globe* 15.12.1877; *Globe* 8.2.1879; *The Morning Chronicle* 11.3.1879; *Montreal Gazette* 28.11.1881; *Montreal Gazette* 25.11.1886; *Montreal Gazette* 8.1.1891.

59 *The Morning Chronicle* 11.3.1879.

60 See, e.g. Heuvelmans 1974a [1958], 59–61; Ellis 1999, 7–8, 168; Heuvelmans 2006 [1958], 29; Babb 2009; Tiffin 2014. See also Ellis 1999, 240–41

61 See "Poulpe géant observé entre Madère et Ténériffe." 1861.

62 See, e.g. *The Citizen* 15.11.1873; *The Globe* 10.12.1873; *The Globe* 9.10.1877; *The Globe* 15.12.1877; *The Globe* 8.2.1879.

63 According to Harvey's and Murray's writings, the squid attacked the fishermen's boat. See, e.g. Harvey 1874b; Murray 1874.

64 *The Globe* 9.10.1877; *Montreal Gazette* 17.10.1877.

65 *The Globe* 15.12.1877.

66 *The Globe* 8.2.1879.

67 Hanlon & Messenger 2018, 129–30.

68 *The Globe* 8.2.1879; *The Morning Chronicle* 11.3.1879.

69 O'Connor 1875, 4502–03.

70 Hanlon & Messenger 2018, 129–30.

71 See, e.g. "Poulpe géant observé entre Madère et Ténériffe" 1861; Bouyer 1862; Bouyer 1866; Bouyer 1867, 19–23.

72 The bodies of various squid contain a solution of ammonium chloride, which is a substance lighter than water. As they stop swimming they ascend to the surface. See, e.g. Clarke et al. 1979; Clarke et al. 1993; Kubodera & Mori 2005; Rosa et al. 2005; Winkelmann et al. 2009; Roper 2016. See also Ellis 1999, 110.

73 See, e.g. *The World* 11.11.1873; *The Citizen* 15.11.1873; *The Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873; *Montreal Gazette* 26.11.1873; *Harbor Grace Standard* 29.11.1873; *Daily Evening Traveller* 4.12.1873. See also Harvey 1873; Harvey 1874b; Murray 1874; Harvey 1899.

74 See, e.g. Ellis 1999, 81–84.

75 See, e.g. Canteras 2010, 369; Russel & Hertz & McMillan 2016, 1254.

76 See, e.g. *The Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873. See also Harvey 1874b, 201; Murray 1874, 161; Harvey 1899, 732–33.

77 See, e.g. *The World* 11.11.1873; *The Citizen* 15.11.1873; *The Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873; *Montreal Gazette* 26.11.1873; *Harbor Grace Standard* 29.11.1873; *Daily Evening Traveller* 4.12.1873. See also Harvey 1873; Harvey 1874b; Harvey 1899.

78 Harvey was apparently inspired by Victor Hugo's devilfish, when he wrote his descriptions about the monstrousness of enormous squid. Similarly, Bouyer undoubtedly applied the characteristics of Michelet's depiction of monster-octopuses when he described the squid he saw near Tenerife.

79 As Jereb and Roper demonstrate, the mantle length of the giant squid is considerably shorter than the length of its arms and tentacles. Jereb & Roper 2010, 121.

80 There were also exceptions for the usual way to kill enormous squid immediately after they were discovered. For instance, the narrative by the Newfoundland judge and politician Thomas R. Bennett about the giant-sized squid discovered at Coomb's Cove, Fortunate Bay, Newfoundland in 1872, demonstrates how fishermen pulled the enormous squid onto the shore and observed it while it still was alive. Bennett writes that "The skin and flesh soft and the long arm very soft, so that one could push the finger into either arm or body while the animal was alive." The *Morning Chronicle* 13.3.1873. See also Verrill 1879, 183.

81 O'Connor 1875, 4502–03.

82 *The Globe* 9.10.1877; *The Morning Chronicle* 17.10.1877.
83 *The Globe* 8.2.1879; The *Morning Chronicle* 11.3.1879.
84 *Harbor Grace Standard* 6.12.1879; *The Morning Chronicle* 9.12.1879; *Montreal Gazette* 29.12.1879.
85 ”Poulpe géant observé entre Madère et Ténériffe” 1861, 1267.
86 See, e.g. Heuvelmans 1974b [1958], 345; Heuvelmans 2006 [1958], 187.
87 *Montreal Gazette* 8.1.1891.
88 See, e.g. Bourke 2006, 1–9.

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6 The enormous squid in scientific and public discussion in the 1860s

Various scientific breakthroughs were made in the mid-nineteenth century. One of the most discussed was undoubtedly the evolution theory proposed by Darwin. Nevertheless, many other scientific discoveries were also made. For instance, the first remain of Neanderthals was found in present-day Germany in 1856, and the Swedish chemist Alfred Nobel invented the dynamite in 1867.

In the field of marine science, the mid-nineteenth century was also an interesting period, because the first systematic efforts to reach beneath the waves, sound the sea floor as well as map the deep sea began. The American officer and oceanographer Matthew Fontaine Maury led expeditions in the 1850s that aimed to study the ocean depths. The reason behind the study of the ocean floor was most of all to ensure a safe site for the Transatlantic telegraph cable. In the end, the deep-sea observations revolutionized the scientific and popular transatlantic understanding of the world beneath the waves.

At the same time, there was also a growing interest in marine zoology, not only among scientists but middle-class amateur naturalists. Collecting and studying animals as well as plants became popular entertainment during the mid-nineteenth century. Moreover, because of the new invention called as the aquarium, one could bring the collected marine animals to one's home and observe them more closely. It was a groundbreaking invention, as it enabled observations of marine life from other angels than just above the surface.

Altogether, the mysteries hidden beneath the waves began to interest the wider public in the mid-nineteenth century than ever before. Trained scholars and amateur naturalists began to publish popular science books of natural history, focusing now entirely on the sea and marine life. Such books were published especially in France. These works inspired a growing number of people and they also had an impact on the mid-nineteenth century novels such as the ones written by French authors like Victor Hugo and Jules Verne.

Now, cephalopods also got a more visible role in scientific works, books of popular science as well as in novels mentioned above. The octopus depicted in Victor Hugo's book *Les Travailleurs de la mer* (1866) became so famous that it created a transatlantic *cephalomania*, an obsession with cephalopods that extended from Europe to America. This also affected the ways in which people began to

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understand enormous squid. Thus, this chapter explores how the scientific community and the public defined enormous squid in the 1860s.

The growing presence of the giant-sized squid in scientific publications

In the 1860s, the way in which zoologists and scientific writers understood enormous cephalopods was in a state of change. The reason for this was the enormous squid that gradually began to appear in publications by malacologists, zoologists, and popularizers of science. For instance, some of these publications explicitly mention that stories about unidentified and enormous cephalopods concerned giant-sized squid, including famous sea monsters such as the Kraken. In addition, many of the scientific publications that discussed sizeable cephalopods no longer explicitly defined these animals as octopuses. Instead, they used ambiguous terms to avoid defining the specimens. This was a remarkable change, because only a few decades earlier naturalists had emphasized that the only cephalopod able to reach sizeable dimensions was the octopus. In the 1860s, an increasing number of zoologists and scientific writers became aware of the possibility that an enormous cephalopod could be identified as a giant-sized squid and was not necessarily an octopus. Despite this, only a minority of them made much of this possibility or publicized it.

The majority of previous modern studies of the giant squid have also noted the presence of enormous squid in scientific publications from the 1860s onwards, but they have not understood how long it took for them come to widespread attention. These studies say that the encounter between an enormous squid and the crew of the *Alecton* in 1861 was a turning point, after which the horrible giant squid, whose existence natural historians had denied for decades, burst upon the scene as a reality.[1] This is, however, a problematic interpretation for more than one reason.

The most obvious problem with the "sudden realization of the giant squid" thesis is that there was no "giant squid" in the 1860s – that is to say, the term, and therefore the concept, did not exist then, and was not used to describe the enormous cephalopod met by the crew of *Alecton* or any other enormous squid witnessed or discussed in the following decade. The term attained its current meaning in transatlantic culture only during the last three decades of the nineteenth century. A second problem with the thesis is one we have already encountered: it conveys the idea that before 1861 people had always perceived the enormous squid as a terrifying monster, albeit one whose existence naturalists had denied. However, seafarers did not perceive these squid as monsters before the 1860s. Moreover, naturalists did not deny the existence of enormous cephalopods. It is true that some of the early nineteenth-century naturalists did not understand that squid might reach an enormous size, but this was not because of their assumed monstrosity, it was because these naturalists saw squid as too insignificant a species to attain sizeable dimensions. The only stories that the nineteenth-century zoologists denied were narratives about colossal cephalopods able to sink ships or achieve the size of an island. Moreover, these stories represented the menacing cephalopod, almost without exception, as an octopus.

A third problem with the thesis is that although it is clear today that the crew of the *Alecton* encountered an enormous squid, there are writings from the 1860s by only three scientists, who suggested that this cephalopod was a squid.[2] It will become clear that zoologists and others did not perceive the enormous cephalopod encountered by the *Alecton* as a squid until the 1870s, once zoologists had realized that the squid was the only cephalopod able to reach sizeable dimensions.[3] The majority of zoologists and popularizers of science who wrote about the cephalopod of 1861 explained it with vague terms such as cephalopod or mollusc, which did not reveal its species.[4] Some of the science writers also defined the cephalopod witnessed near Tenerife as an octopus.[5] The incident involving the *Alecton* did not suddenly persuade all European and American zoologists that the enormous cephalopods of past tales were squid.

Enormous squid did not become a widely discussed cephalopod species among zoologists in the 1860s, but its appearance in their publications did gradually become more frequent. This occurred because some contemporary zoologists and scientific writers took note of documents, emphasizing that such animal as giant-sized squid probably existed, those by naturalists such as Péron, Quoy and Gaimard, d'Orbginy and most recently Steenstrup and Harting. Nevertheless, zoologists and scientific writers also speculated about giant-sized cephalopods. They began to perceive these cephalopods as animals that had inspired the ancient sea monster stories, just as previous natural history authors had done with octopuses. The result was that even as the enormous squid emerged in scientific discourse it was becoming an animal associated with mystery and monstrosity.

In the 1860s, scientific discussion of enormous cephalopods encompassed the whole range of issues covered by older material about both these animals and sea monsters. The works mentioned above that posited the existence of sizeable squid were only a few of those that contemporary zoologists referred to when they discussed enormous cephalopods. Some 1860s zoologists and popularizers of science, for instance, directly referred to older works such as Denys de Montfort's treatise.[6] Nevertheless, Pieter Harting's article "Description de Quelques de Deux Céphalopodes Gigantesques" (1861) and the limited knowledge of Steenstrup's descriptions about *Architeuthis* had a particular significance for contemporary work on enormous cephalopods.[7] The reason was probably the novelty of these works. Harting's article, written in French, was relatively accessible so it had considerable influence. Steenstrup's theories about enormous squid were familiar only to those able to read Danish or who took the trouble to communicate with him.

The majority of the natural-historical material written from the turn of the nineteenth century to the 1860s described giant-sized cephalopods only in vague terms and speculated that they were the inspiration for the ancient sea monster stories. Given these previous writings, it is understandable that zoologists, popularizers of science and novelists of the 1860s described enormous cephalopods as mysterious animals that had inspired the creation of sea monster myths or tales.

Nevertheless, although Harting and various naturalists before him, such as Steenstrup, Quoy and Gaimard, and Péron mentioned that the animal they wrote about was a squid, the majority of the scientific authors of the 1860s avoided speculating that all sizeable cephalopods belonged to this one order of cephalopods.[8] This is likely to have resulted from the still during the 1860s prevalent understanding that only octopuses could grow enormous.[9] Only a few of the scientific writings published during this decade proposed that enormous cephalopods might be squid, while the majority of them either failed to identify the cephalopods or explicitly stated that they were octopuses.

As noted, I have only discovered three scientific works published in the 1860s which suggested that enormous cephalopods could be squid. The most influential of these was the scientific article "Nouveaux Documents Sur Les Céphalopodes Gigantesque" (1862), written by the French malacologists Joseph Charles Hippolyte Crosse and Paul-Henri Fischer.[10] They were both laborious zoologists active in the latter part of nineteenth century, who, for instance, co-edited the French scientific journal *Journal de Conchyliologie*.[11] Various malacologists referred to their article from the 1870s to the 1890s.[12]

In addition to Crosse's and Fischer's article, the French naturalist Alfred Moquin-Tandon and the French ethnologist Armand Landrin speculated in their books that some of the previously unidentified and enormous cephalopods could be giant-sized squid. Moquin-Tandon was an esteemed naturalist, interested especially to botany. He worked, for instance, as a professor of botany and was an elected member of the Académie des Sciences. Nevertheless, he was also interested in the study of molluscs. Unlike Moquin-Tandon, Landrin was a geologist, but his main interest laid in ethnology and anthropology. He was a member of the Société d'Anthropologie de Paris and the Société de Géographie.[13]

Crosse and Fischer and Landrin's *Les Monstres Marins* (1867) emphasized that sizeable squid may explain some of the mythical sea monsters. Crosse and Fischer said, for instance, that the murderous "polypus," which Pliny mentioned as menacing the town of Carteia in his esteemed *Naturalis Historia*, might have derived from the sighting of giant-sized squid belonging to the genre *Ommastrephes*. This theory probably originated in Harting's article, where he had concluded that the enormous squid occasionally spotted in the seas were overgrown *Ommastrephes*.[14] Moreover, Pliny's polypus was not the only sea monster narrative that Crosse and Fischer associated with sizeable cephalopods. They also suggested that Olaus Magnus's description of the mythical sea monster *Ahanc* resembled the octopus belonging to *Cirrhoteuthis*, known today as *Cirrina*.[15] Crosse and Fischer thereby furthered the speculative discourse that naturalists who specialized in the study of sizeable cephalopods had engaged in since the times of Denys de Montfort. They attempted to debunk old sea monster stories, and thus "rationalize" the world, but by doing so advanced the monsterization of squid and octopuses, creating new monsters in place of old.

Armand Landrin also explains that mythical sea monster stories derived from the sighting of giant-sized squid. Here he suggests that the mythical Kraken is an enormous squid:

> One particular genus among the cephalopods has received the name *Poulpe*, from the Latin *polypus*; but the term is sometimes extended to all the

> cephalopods, so as to include *Poulpe* (or *Octopus*) properly so called (the *pieuvre* of the French), the *Sepia*, or Cuttle-fish, and the *Calmar*, or *Calamary*. It is for this reason that the kraken is always spoken of as a gigantic poulpe, though it is now well understood to be, in reality, a gigantic calmar.[16]

This quote reveals that the concept of enormous squid was beginning to threaten the dominant position of the colossal octopus in transatlantic culture during the 1860s. His association of the Kraken with the sizeable squid was not groundbreaking, as Herman Melville had already mentioned in 1851 that the Kraken possibly derived from sightings of enormous squid.[17] However, Melville's suggestion was ahead of its time and derived from a knowledge about sizeable cephalopods acquired from the whaling community. At that time naturalists and other people mainly understood Kraken as an octopus, if as a cephalopod at all. Melville's idea was not repeated for ten years, and when Landrin speculated on the same lines, his idea reflected the zoological discussion of the 1860s, in which enormous squid were emerging to challenge the octopuses as an explanation for sea monster stories. Landrin also suggested that the ancient Scylla derived from the sighting of an enormous cephalopod.[18] This particular notion was not to become popular until the twentieth century, when cryptozoologists such as Willy Ley and Heuvelmans revived Landrin's idea.[19]

When Landrin explains the Kraken as deriving from sightings of enormous squid, he emphasizes that Norwegian fishermen created the mythical Kraken because of the terror they felt when seeing such a squid. He produced a detailed argument to show that Norwegian fishermen were responsible for the Kraken tale.[20] This was a milestone in that it is the first source that explicitly explained sea monster stories as originating from interaction between seafarers and giant-sized squid.[21] This is the same discourse that defines the discussion of the mysteriousness of the giant squid even today. Although, Landrin's speculations evidently influenced Heuvelmans and others, he cannot be held wholly responsible for the spread of this discourse. Other writers who monsterized enormous squid during the last three decades of the nineteenth century also associated the mythical Kraken and giant-sized squid.[22]

In addition to proposing it as the prototype for mythical entities, Crosse and Fischer speculated that the enormous cephalopod witnessed by the crew of *Alecton* was a giant-sized squid. They even concluded in their article that the cephalopod was a squid belonging to the family of *Loligidae*.[23] Their theory was followed by Moquin-Tandon and Landrin, who referred to Crosse and Fischer in their text.[24] Crosse and Fischer reached their conclusion by reading Bouyer's and Berthelot's letters, which mention physical details of the cephalopod. They rejected the possibility that it was an octopus, as they read that it had an elongated body and fins only at the rear end of its body. However, this was not enough for Crosse and Fischer: they wanted to say something about its species. To do this, Crosse and Fischer applied d'Orbigny's method of dividing squid species into two categories according to the structure of their eyes. Bouyer had stated that the eyes of the monster octopus he believed that he had seen "had a frightening fixity," and on this basis Crosse and

Fischer concluded that it belonged to the genus *Loligo Lamarck*.[25] They named it *Loligo Bouyeri,* after the captain of the *Alecton*, Frédérick Bouyer. In addition to the species of this squid, Crosse and Fischer went even further by speculating on the reason for its enormous size, and explained this as a result of the continuous growth among squid, a theory that Harting had introduced in his article.[26] Crosse and Fischer may have been correct in stating that Bouyer's "monster" was a squid, but their conclusions were based on pure speculation, not empirical research.

In the late 1860s, Moquin-Tandon and Landrin also suggested that the cephalopod encountered by the *Alecton* was a squid. It can be only concluded that they drew this conclusion on the basis of Crosse's and Fischer's article. Moquin-Tandon tried to define the species of this cephalopod himself by analyzing Berthelot's letter, but stated it to be too difficult a task because Berthelot's description revealed that this cephalopod had two fins, as a squid would, but eight arms, as an octopus would. He concludes, with reference to the article by Crosse and Fischer, that this "monster," as he called it, should be named *Calmar de Bouyer*, meaning *Bouyer's squid*.[27] Unlike Moquin-Tandon, Landrin briefly explained in a footnote that the cephalopod witnessed by the crew of the *Alecton* was a squid. The way in which Landrin argues this suggests that he too had used the article by Crosse and Fischer.[28]

These works are examples of the enormous squid beginning to challenge the octopuses as the animals that could explain the unidentified sightings of enormous cephalopods and famous sea monster tales, now largely accepted as deriving from encounters with sizeable cephalopods. The authors of these works did not come to a sudden realization that the enormous squid could not be mere fable because it had actually appeared: they speculated that enormous cephalopods could be squid by referring to previous speculation, mainly that of Pieter Harting. There was no groundbreaking sensational discovery of real giant-sized squid, only new speculation by a few men who were a minority even in the cephalopod research community.

Although the writings mentioned above were the only ones to state that the enormous cephalopod encountered by Bouyer was a squid, works published in the 1860s by various other scientific writers did reflect the growing presence of the enormous squid in scientific texts. Many of these writings about enormous cephalopods no longer described them as octopuses, merely defining unidentified species of enormous cephalopods with ambiguous terms such as "cephalopod" and "mollusc."[29]

This vague nomenclature appears clearly in the discussions about the enormous cephalopod witnessed by the crew of the *Alecton*. For instance, in the session of the French Academy in 1861, in which naturalists discussed the encounter, the eminent French zoologist Henri Milne-Edwards described this and many other still unidentified and giant-sized cephalopods with names such as "enormous mollusc," "giant cephalopod," and "gigantic animal of the same family." He only mentions large squid in two references, one to Aristotle's work and the other to Péron's sighting of one near Tasmania. He describes the squid that Quoy and Gaimard witnessed in 1817 as an enormous mollusc. Moreover, the squid that Steenstrup studied in the 1850s, he describes as a giant cephalopod.[30] I suspect that he used these terms because the old understanding that only octopuses could reach sizeable dimensions was in crisis. There was no longer any certainty about what species these giant cephalopods belonged to.

In addition to Milne-Edwards, many zoologists and popularizers of science who described enormous cephalopods in the 1860s relied on this same method. For instance, the famous French popularizer of science, Arthur Mangin, wrote a long description of enormous cephalopods. He says they were somehow connected with giant-sized octopuses, but occasionally calls them cephalopods and molluscs.[31] Similarly, Moquin-Tandon avoided referring to octopuses or squid. Although he mentioned that the cephalopod met by the crew of the *Alecton* was a squid, in the part of his book, in which he discusses enormous cephalopods, he refers to them with various names that do not reveal their exact species.[32] Even Landrin, although he explicitly mentioned the Kraken as an enormous squid, uses several terms to represent cephalopods. They are used so interchangeably that the contemporary reader had difficulties to understand which cephalopod he meant at any given point.[33] In addition to these authors, in the 1860s there were various others who wrote about enormous cephalopods without mentioning their precise species.[34]

Despite the shift to vague definitions of cephalopods, there also appeared publications in which all the stories about unidentified cephalopods or sea monster narratives alleged to derive from the sighting of enormous cephalopod were said to involve octopuses. For example, the famous French popularizer of science, Louis Figuier, included all such stories and narratives in his *La vie et les murs de animaux* (1866) and *Zoophytes et Mollusques* (1866) in the chapter discussing octopuses. In that chapter he mentioned the descriptions of cephalopods by Pliny and Denys de Montfort, Olaus Mangus's sea monsters, the Kraken, Linnaeus's *Sepia Microcosmus*, and the sightings of enormous squid by Péron, Quoy and Gaimard, Rang and the crew of *Alecton,* as well as referring to the studies by Steenstrup and Harting.[35] Figuier's books show that the concept of the enormous squid did not suddenly dominate the scientific discussion of cephalopods during the 1860s.[36] There were still science writers whose texts continued the old tradition of understanding all enormous cephalopods as octopuses.

As well as the textual sources, the drawings that began to appear in different scientific works during the 1860s must be mentioned. They may have played their part in misleading modern writers into assuming that large squid had become famous in the 1860s. However, illustrations that we would recognize today as representing the giant squid were not necessarily recognized as squid by everyone in the 1860s, even if they knew they were cephalopods.[37]

The first two drawings (Figures 6.1 and 6.2), published in the books by Figuier and Landrin, represent the enormous cephalopod encountered by the crew of the *Alecton*. Pictures in Mangin's and Meunier's books symbolize the Kraken and a "giant octopus," surprising the diver (Figures 6.3 and 6.4). All these images resemble enormous squid, but this does not mean that contemporaries would have understood them as such. Instead, these drawings bear a resemblance to the enormous squid because they mimicked Eugene Rodolphe's drawing of the squid the crew of the *Alecton* witnessed. He was a navy officer serving onboard *Alecton*.[38]

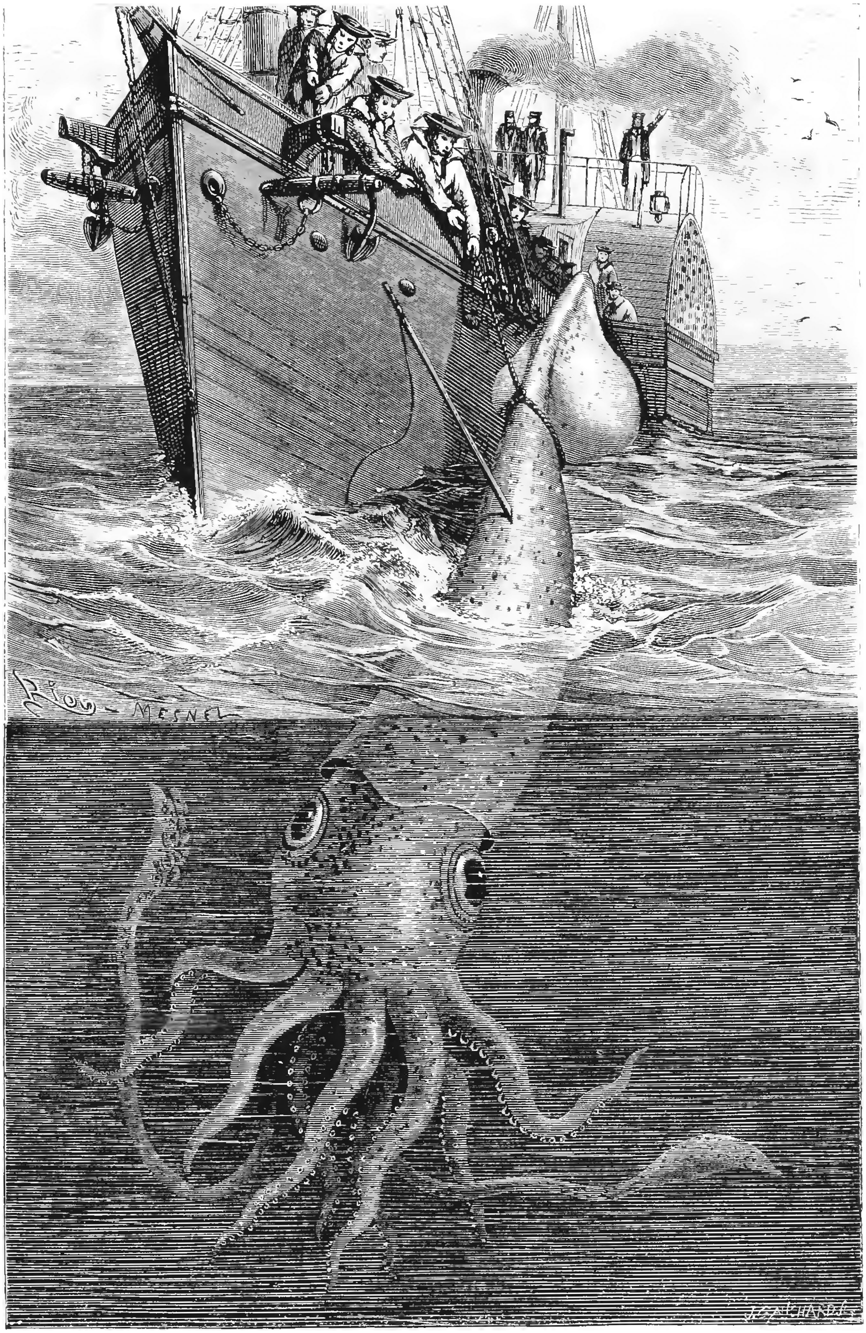


Figure 6.1 This sketch, published in Figuier's book, is evidently made by Albin Mesnel. The picture represents the moment when the crew of *Alecton* tried to haul "Poulpe gigantesque" on board.

Source: Figuier 1866a, Fig 362.

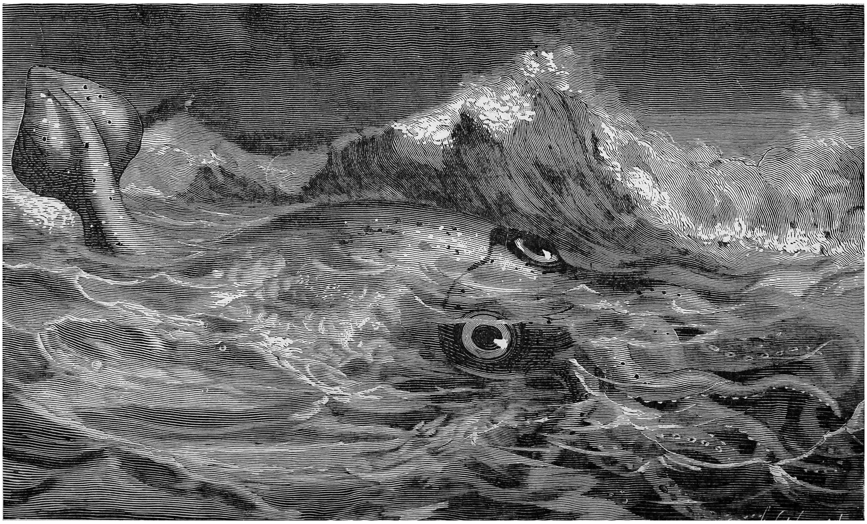


Figure 6.2 A visual representation of *Calmar de Bouyer* in Landrin's *Monstres marins*. This identical drawing is from J. Gibson's *Monsters of the Sea: Legendary and Authentic* (1887).

Source: Gibson 1887, 138.

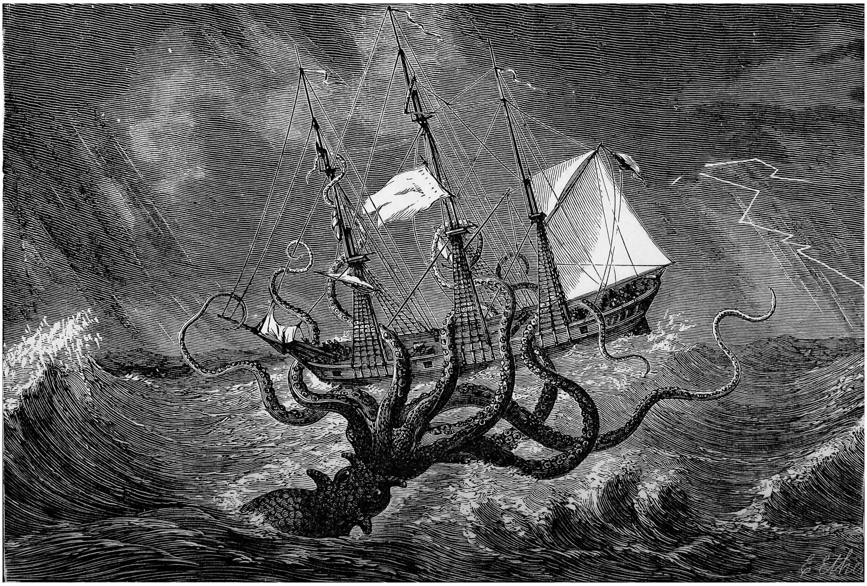
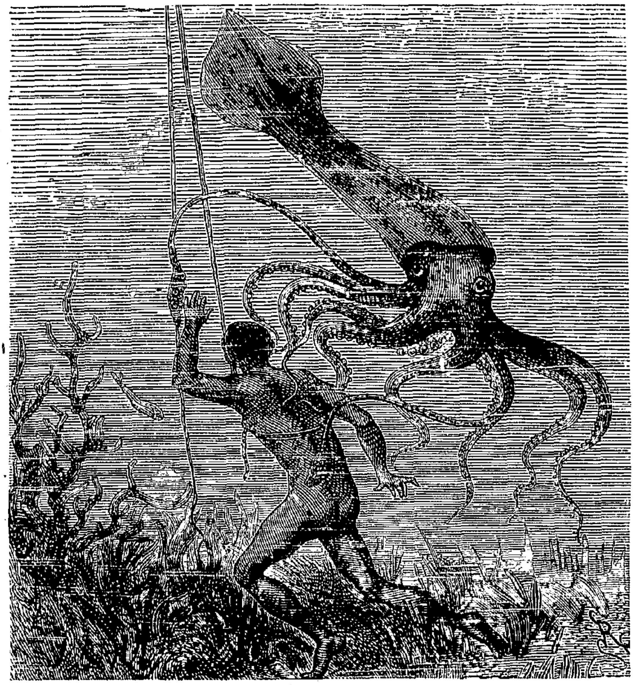


Figure 6.3 "Le Kraken" by Edward Etherington appeared in Mangin's *Les mystères de l'océan*.

Source: Mangin 1864, 296.



Plongeur malais surpris par un poulpe géant.

Figure 6.4 Sketch of a diver surprised by a poulpe géant in Victor Meunier's *Les Grandes Pêches*.

Source: Meunier 1871 [1868], 260.

The drawing, made closest to the time of the event, was the one naturalists took to be the best image of the true encounter between the enormous cephalopod and the ship. Importantly, this sketch of enormous squid was introduced to the broader audience in the French newspaper *l'Illustration* on March 3, 1862, as an image of the *poulpe géant*, the giant octopus, because Bouyer and Berthelot used Rodolphe's drawing to depict the "the giant octopus" Bouyer believed he and his crew had seen near Tenerife (Figure 6.5).[39]

Although various studies of the giant squid have taken all the illustrations above to demonstrate that people in the 1860s knew about the existence of the giant squid,[40] the writers whose books contained these illustrations classified these enormous cephalopods as octopuses or discussed them ambiguously with different names. All the illustrations above reflected the presence of enormous squid, as Rodolphe's drawing of such an animal had inspired them. Thus, they contained the structural model of the corporeal and giant-sized squid, but the majority of contemporaries did not perceive them as squid. There were too many nebulous

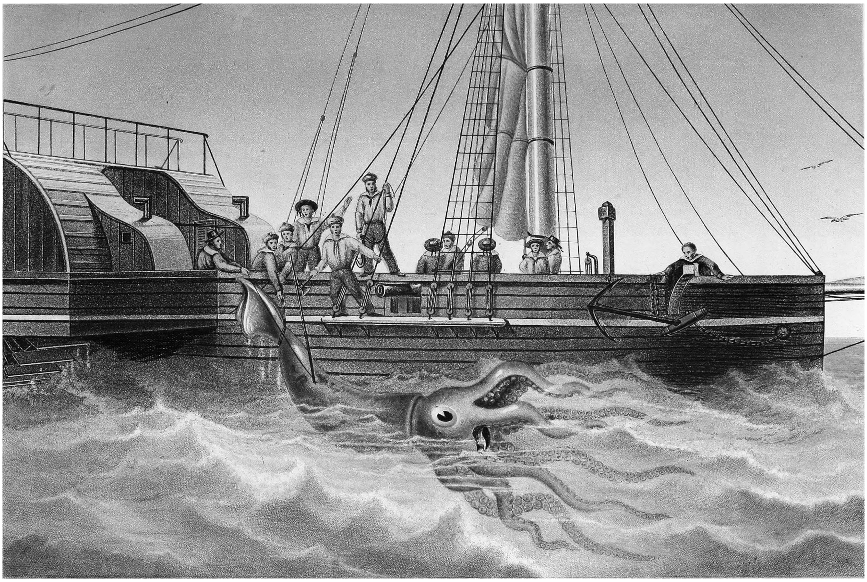


Figure 6.5 A copy of Eugene Rodolphe's sketch, made by P. Lackerbauer, depicting the hauling of the "gigantic octopus", which was actually a giant squid, onto the deck of *Alecton*.

Source: Moquin-Tandon 1865, 314a.

definitions of enormous cephalopods that increased the uncertainty among contemporary scientific writers. It seems that the majority of zoologists and other scientific writers did not want to define the species of cephalopods illustrated in these images because they were uncertain or unaware of the species.

Whether these zoologists and scientific writers described the enormous cephalopod as squid or octopus, or ambiguously as cephalopod or mollusc, their way of representing these animals nevertheless laid the groundwork for the later understanding of the giant-sized squid. Whereas previous studies suggest that the scientific discussion rationalized the existence of enormous squid in the 1860s,[41] zoologists and other science writers of the decade merely succeeded in mystifying sizeable squid more than in any previous decades.

Why were the speculations that various scientific writers made about the enormous cephalopods so influential in the 1860s? One of the most extensively used ways to speculate about the characteristics of different yet unidentified and giant-sized cephalopods in contemporary publications of science was to compile a natural history of these animals together. Harting had already entangled enormous cephalopods and different sea monster entities such as Pliny's polypus, the Kraken, Denys de Montfort's octopuses and Olaus Magnus's monsters from assorted sources and then associated them all with the enormous squid he studied, the one that Steenstrup named as belonging to *Architeuthis*.[42]

Various scientific writers in the 1860s used Harting's method. For instance, when Milne-Edwards discussed the cephalopod encountered by the crew of the *Alecton* in the session of the French Academy of Sciences in 1861, he mentioned a similar list to Harting, including various unidentified and enormous cephalopods as well as sea monster entities. He implied that the enormous cephalopod met by the *Alecton*, was a new addition to this class of unidentified cephalopods.[43] Crosse and Fischer undoubtedly furthered the tradition of Harting's writings when they wrote their highly speculative article. Additionally, they were certainly inspired by Milne-Edwards' speech.[44]

Various French popularizers of science reiterated the same scheme in their books when they introduced the natural history of enormous cephalopods. The majority of such books began the history of these animals with Pliny's polypus, which frightened the people of Carteia during Antiquity, and ended their history with the encounter between the enormous cephalopod and the *Alecton*.[45] A similar style of writing the natural history of unidentified and enormous cephalopods began to appear outside France. An example is Jacob Schleiden's treatise popularizing marine science, *Das Meer* (1867), which includes a similar section introducing the natural history of enormous cephalopods.[46]

In addition to the treatises mentioned above, Arthur Mangin explained the natural history of large cephalopods in his *Les mystères de l'océan* (1864) in a similar way to all the other scientific works published in the 1860s, but with an important difference. Unlike all the other writers, he speculated that the existence of enormous cephalopods was physically impossible.[47] Mangin's work is the only historical source that I have discovered, in which the existence of enormous cephalopods is wholly denied.[48]

In the first edition of his book, Mangin directed his criticism against the German zoologist Christian Gottfried Ehrenberg, who had mentioned Steenstrup's discoveries of enormous cephalopods in one of his papers. Mangin stated that there was no proof of the existence of such a creature and that the existence of such an animal would have been against the laws of nature.[49] In the third edition of his book, he uses the same argument to criticize Bouyer's and Berthelot's descriptions of the enormous cephalopod encountered by the *Alecton*. Furthermore, he argued that the sighting of the creature as described in the documents was in fact a mass illusion.[50]

Although we now know that Mangin's criticism concerning the existence of enormous cephalopods was groundless, his disapproval is understandable in the context of the time. Steenstrup had not published anything about his discoveries, and no-one had questioned the incredible details mentioned in the letters of Bouyer and Berthelot.[51] Strangely, many modern studies of the giant squid have taken Mangin's skepticism to represent the perceptions of various nineteenth-century naturalists, who according to them tried to deny the existence of the giant squid.[52] It can be stated that Mangin represented a clear minority with his theory about the nonexistence of enormous cephalopods. What Mangin did achieve with his argument that the existence of enormous cephalopods was a fraud was to inadvertently increase the mystery of these animals. Denying the existence of huge cephalopods that had been widely used to explain the origin of various monster stories introduced a new controversy, or mystery, to the potent mix of scientific fact, falsehood, myth and speculatory material that surrounded enormous cephalopods.

By basing their accounts largely on speculation, the zoologists and popularizers of science mentioned above repeated the error made by many of their predecessors, attempting to explain the natural history of sizeable cephalopods with old tales or debunking mythical creatures with large cephalopods. Unable to classify these cephalopods as part of the known animal kingdom, they placed them in the space between known entities and famous sea monster stories. Between known and fabled beings, enormous cephalopods became subjects of more speculation and stories that hugely advanced their monstrousness.[53] Thus, the zoologists and scientific writers who attempted to unveil the mystery around enormous cephalopods or debunk sea monster fables during the 1860s only succeeded in furthering their monsterization.

In addition to the speculation mentioned above, the publication of the letters by Bouyer and Berthelot in the esteemed series of publications by the French Academy of Sciences, *Comptes rendus hebdomadaires des séances de l'Académie des sciences*, definitely furthered the mythical character of enormous squid. The *Comptes rendus* published their letters as they were written, including the representations of the cephalopod that the crew of the *Alecton* witnessed in 1861 as a "terrible and repulsive giant octopus."[54] This, of course, influenced how people understood giant-sized squid. These writings also had a direct influence on the later tradition of representing sizeable squid: the letters of Bouyer and Berthelot were widely used to describe the cephalopod witnessed by the *Alecton*'s crew even after the majority of zoologists began to understand that this cephalopod was a squid, not an octopus.[55] Even today, writers refer to these letters as evidence of how people perceived enormous squid in the past.[56]

The illustrations of enormous squid mentioned above also undoubtedly furthered their monsterization. The image of the Kraken that has entwined its tentacles around a ship in stormy seas, and Meunier's depiction of the "giant octopus" surprising a diver were very effective illustrations.[57] This is because the enormous cephalopod threatens humans in these images. It is obvious that such powerful visualizations of enormous cephalopods reinforced the idea that enormous cephalopods are ship-sinking monsters and creatures that lurk underwater waiting to pounce on unsuspecting divers.

The discussion in the French publications by zoologists and popularizers of science also influenced the discourse about enormous cephalopods in other countries around the north Atlantic, but this knowledge was not disseminated as quickly as previous modern studies have suggested. For instance, the news about the *Alecton* did not become an immediate sensation, as many of those works claim.[58] In addition to some French newspapers and journals, only a few British newspapers mentioned the incident.[59] Moreover, the American newspapers did not write about the case of *Alecton* until 1869.[60] The information provided by the numerous French publications discussed in this section disseminated to an international audience via translations only in the late 1860s and 1870s.[61]

Heuvelmans' claim that the *Alecton* incident caused a sensation that brought the "giant squid" to fame, itself dubious, rests on the claim that there was silence about the existence of the "giant squid" before that. He also suggests that the alleged public sensation silenced all the serious scientists.[62] Leaving aside the incorrect assertion that the *Alecton* incident was an immediate sensation, Heuvelmans' argument does not take into consideration that the majority of contemporary zoologists were not necessarily interested in speculation combining modern malacology and the ancient sea monster stories, which had been provided by two French malacologists and some science writers. There was nothing concrete in the abovementioned speculative studies and other stories that would have interested contemporary zoologists. There is also a problem in that Heuvelmans' thesis rests on the purpose-orientated idea: there is no reason to believe that speculative writings about enormous cephalopods would have interested all contemporary zoologists in the 1860s. As in the 1850s, the scientific community faced numerous problems that drew much wider attention than the alleged existence of enormous cephalopods, whether they be octopus or squid. For instance, the discussion of evolution theory still shook the scientific community and the understanding that the great depths of the sea could sustain life caused a paradigmatic shift in the field of marine zoology.[63] The educational value of the writings and illustrations scrutinized in this section, increased only after zoologists succeeded in classifying enormous squid in the 1870s.

Cephalomania and the monsterization of enormous squid

In the 1860s, cephalopods began to appear in publications such as novels that were not as scientifically oriented as the works by malacologists, zoologists or popularizers of science. For the enormous squid these publications were vital, because they had a significant impact on the ways in which people began to define these squid in the 1870s. Above all, they brought public renown to cephalopods from the late 1860s onwards. Enormous or evil cephalopods appeared especially in French novels and other books such as Jules Michelet's *La Mer* (1861), Victor Hugo's *Les Travaillerus de la Mer* (1866) and Jules Verne's *Vingt mille lieues sous les mers* (1869–70). Of these works, Hugo's novel in particular became a sensation in Europe and America.

All these books introduced cephalopod monsters to their readers. In his book Michelet describes two enormous octopus monsters, *Devourer* and *Sucker*, which inhabited the primeval ocean. He writes that they attempted to destroy the Earth, but the prehistoric birds destroyed them before they could achieve this. Nevertheless, Michelet states, their progeny remained unharmed and continued to live in the oceans.[64] The cephalopod monster that appeared in Victor Hugo's bestseller was a normal-sized but vicious octopus. Hugo named it *devilfish.* The octopus attacks the main character, Gilliat, in a cave on the shore of Guernsey.[65] Unlike Michelet and Hugo, in his book Verne portrays monster cephalopods that were akin to the *poulpe géant* described in Bouyer's and Berthelot's letters. In Verne's novel, these cephalopods attack the *Nautilus*, the submarine commanded by Captain Nemo.[66]

None of these books explicitly represented squid. Michelet and Hugo unambiguously distinguish their monsters as octopuses, as distinct from squid or other cephalopods. Michelet, for instance, describes the cephalopods other than octopuses as "elegant species." He briefly depicts the squid as an excellent swimmer that does not share the terrible characteristics of the octopus. Hugo indicated that his devilfish was an octopus by stating that it was located "a little above the calamaries, a little below the cuttle-fish" in the classification system.[67] Modern studies have correctly discussed Michelet's and Hugo's monsters as octopuses.[68] However, they almost invariably classify Verne's cephalopod monsters as representing the giant squid, although Verne named his monsters as both octopuses and "calamary."[69] Only Caillois and Muntz argue that Verne represented octopuses in his novel.[70] I do not believe that Verne attempted to represent any specific species. Instead, his cephalopod monsters depicted the cephalopod that Bouyer imagined he had witnessed near Tenerife in 1861, whose species was still a mystery when Verne wrote his book.[71] The species of Verne's monster cephalopod cannot be identified, because he, like various French scientific writers, represented only vaguely enormous cephalopods.

Although the books mentioned above do not explicitly represent a squid as a monster, Michelet's and Hugo's monster octopuses in particular furthered the monsterization of enormous squid during the late nineteenth century. Michelet's representation of octopuses laid the groundwork for Hugo's novel, and it is sure that it also inspired Bouyer's description of the cephalopod he witnessed near Tenerife. The devilfish Hugo portrays in his novel inspired huge enthusiasm for octopuses and other cephalopods in transatlantic culture from the late 1860s to the 1870s, a phenomenon Genie Babb has aptly named *cephalomania*.[72] There is no indication that Verne's cephalopod monsters strongly influenced the monsterization of enormous squid before the twentieth century, unlike Michelet's and Hugo's octopuses. Nevertheless, his work illustrates well the growing presence of monster cephalopods in transatlantic culture during the 1860s.

Altogether, the perception of octopuses as evil and repulsive animals became firmly and extensively established in transatlantic culture primarily because of Hugo's work, at the latest at the turn of the 1870s. As a result of the widespread stigmatization of octopuses, the discourses of malignity and hideousness also infected other cephalopods such as enormous squid, which contemporary zoologists had already shrouded in a veil of mystery.

Although Hugo's contribution to the monsterization of cephalopods has received due attention, the way in which his novel influenced the understanding of enormous squid has not.[73] Only Heuvelmans and Adamowsky mention that Michelet's account of monster octopuses inspired Hugo,[74] but even they do not discuss how Michelet advanced the monsterization of cephalopods during the 1860s.[75] Modern studies have not noticed the connection between Michelet's account of octopuses and Bouyer's description of the *Alecton* incident in 1861. They imply that Bouyer's description of this cephalopod as a terrible and repulsive monster reflected some all-encompassing and ancient way of perceiving these animals among seafarers and other people.[76]

Modern studies have especially emphasized the significance of Jules Verne for the monsterization of enormous squid. They state or imply that the enormous cephalopod-monsters represented in Verne's novel demonstrate that his contemporaries were aware of the existence of the giant monster squid in the late 1860s when Verne wrote his book.[77] Admittedly, Verne's novel advanced the popularity of giant-sized squid as a monster lurking in the depths, but, as noted above, it did not have a widespread impact on the monsterization of sizeable squid in transatlantic culture before the twentieth century.[78] In addition, although Verne's cephalopod monsters might appear to be giant squid to the present reader, neither Verne himself nor any of his contemporaries were aware of an animal called the *giant squid*.

Another matter is the phenomenon of cephalomania generated by Hugo's devilfish. Many studies have held Victor Hugo and Jules Verne responsible for the popularity of cephalopods as marine monsters, but do not explain how this happened.[79] Only Genie Babb has studied late nineteenth-century cephalomania in her article discussing H. G. Wells's use of cephalopod representations in his fiction.[80] The history of this cultural phenomenon, however, has a minor role in her article.

The French authors created their monster cephalopods in a period that was defined (among other things) by the cultural salience of the ocean and science.[81] Cultural discourses emphasizing interest in the ocean, marine life and zoology created a compulsion for these writers to write stories in which, besides the traditional literary devices, they included science and descriptions of animals such as cephalopods that would reach a broad audience. For instance, various historians mention that the natural sciences inspired Michelet to write his *La Mer* and Verne to write his *Vingt mille lieues sous les mers*.[82] Especially the marine environment, which was of great interest in contemporary culture, inspired Hugo to write his *Les Travaillerus de la Mer*.[83] Nevertheless, as becomes clear from his novel, Hugo's description of the *devilfish* was inspired by natural-historical writings.[84] Michelet's, Hugo's and Verne's way of describing cephalopods in their books and defining them as evil and repulsive animals, derived especially from the natural-historical treatises by French natural historians.

The novelists, of course, influenced one another. For instance, Hugo read Michelet's novel as he began to write his book.[85] Then again, Verne undoubtedly read the descriptions of monster octopuses in the works of Michelet and Hugo before he wrote his own descriptions of enormous cephalopods. Despite this, the primary influence for the descriptions of cephalopods monsters in these novels was the zoological treatises.

There are several indications in the descriptions of cephalopods by these novelists that they based their knowledge of these animals on the writings of earlier natural historians. There are both direct and indirect allusions. To take the direct references first, these writers use the same method as the contemporary zoologists to implicate their cephalopod monsters in the natural history of yet unidentified and enormous cephalopods and sea monster stories. For instance, Michelet and Hugo explicitly state that their octopus monster is akin to the colossal octopuses mentioned by Denys de Montfort.[86] In addition, Michelet associates his octopus monster with the accounts of enormous cephalopods by Péron and Rang. Verne states that Aristotle, Olaus Magnus, Erik Pontoppidan and most recently the reports of the enormous cephalopod spotted near Tenerife describe a similar cephalopod monster to the one confronted by the main characters of his book.[87] Moreover, all these writers explain that their cephalopod monsters are the same creature as the mythical Kraken.[88] The way in which Michelet, Hugo, and Verne link their cephalopod monsters to the natural-historical writings indicates that they had familiarized themselves with the contemporary zoological discussion, but also used it to enliven their descriptions of their creatures.

If we turn to indirect allusions, all these writers recontextualized the discourses, of monster octopuses that had appeared in the natural-historical treatises from the late eighteenth to the early nineteenth century to portray the characteristics of their cephalopod monsters. For instance, Denys de Montfort's account that represents octopuses as animals which have an innate need to destroy everything around them, is clearly visible in the descriptions of cephalopods by Michelet, Hugo, and Verne.[89] All of them write of cephalopod monsters that are voracious creatures, causing carnage purely for pleasure. Hugo also takes up the ancient discourse that described octopuses as eager to assault swimmer or bathers.[90] It is also probable that the representation of enormous octopuses as animals that have a habit of attacking and sinking ships inspired Verne's scene in which enormous cephalopods attempt to destroy Captain Nemo's submersible.[91]

These French authors did not merely reiterate old stories about enormous cephalopods but gave their monster cephalopods new characteristics that made them even more hideous. Michelet, for instance, describes one of his octopuses, *Sucker*, like this:

> There would be something absurd, caricatural, were it not so terrible, in this sight of a mere foetus, soft and transparent, yet cruel, raging, eager, breathing nothing but murder. For he, see you, goes not to war for the mere sake of food. He had a real passion for destroying, for destruction's sake: whenever he has gorged himself, well nigh to bursting, he will destroy still. Destitute of defensive amour, his threatening snortings disguise, but by no means quiet, his real anxiety; his real, his only safety, is an attack. He is the veritable bully of the young world; really vulnerable himself, and yet so terrible to others; he sees in everything that he meet only enemy or victim. At all risks he casts hither and thither his long arms, or rather his whip-lashes, tipped with cupping glasses, and upon enemy or victim, before the fight or the capture commences, he send out his stupefying, paralysing effluvia.[92]

Here Michelet emphasizes the horror of his octopus monster by describing features that no-one had mentioned before. Michelet's horridness derives from the contradiction between foetal softness and murderous intent. As Linda Orr mentions, contradictions defined Michelet's vision of nature.[93] The cruel and deadly "foetus" implies a contradiction that intensifies the unpleasantness of Michelet's octopus monster. According to Orr, Michelet was undoubtedly inspired by contemporary works of embryology, as he described the octopus variously as fetus and embryo.[94] In addition, the quote also explains the octopus as possessing tentacles loaded with "paralyzing effluvia," which is a feature not mentioned in any previous descriptions of octopuses. The ideas of galvanism and mesmerism plausibly inspired Michelet to describe the tentacles of his octopus-monster as containing this "effluvia."[95]

Michelet's description of *Sucker* as a gelatinous and soft monster may well have inspired Hugo, as he also describes the devilfish as horrifying in its softness.[96] Moreover, Hugo, like Michelet, also gave his octopus new and extraordinary characteristics. For instance, the specialty of Hugo's devilfish, having torn the flesh of its victims, was to suck their blood with its suction cups.[97] This exclusive agency of the imagined octopus monster had been mentioned only in Pierre-Claude-Bernand Guéroult's translation of Pliny's *Naturalis Historia* (1802), in which Guéroult writes that octopuses suck blood from humans.[98] Thus, not only did the devilfish eat humans, which several scholars like Harriet Ritvo have mentioned as symbolizing the ultimate (non-human animal) rebellion against humanity, but it slowly and torturously sucked the life out of them.[99]

The geographical vicinity of these cephalopod monsters was another meaningful discourse that Michelet, Hugo, and Verne introduced with their cephalopods. Earlier writers from Pernety to Owen had emphasized that enormous or vicious cephalopods lived in faraway oceans. However, the French novelists were telling people that cephalopod monsters also existed in the near waters of America and Europe. Michelet, for instance, stated that although *Sucker* and *Devourer* lived in the primeval sea, their progeny continued to live in all the oceans. Examples of these descendants were the enormous cephalopods witnessed by Péron near

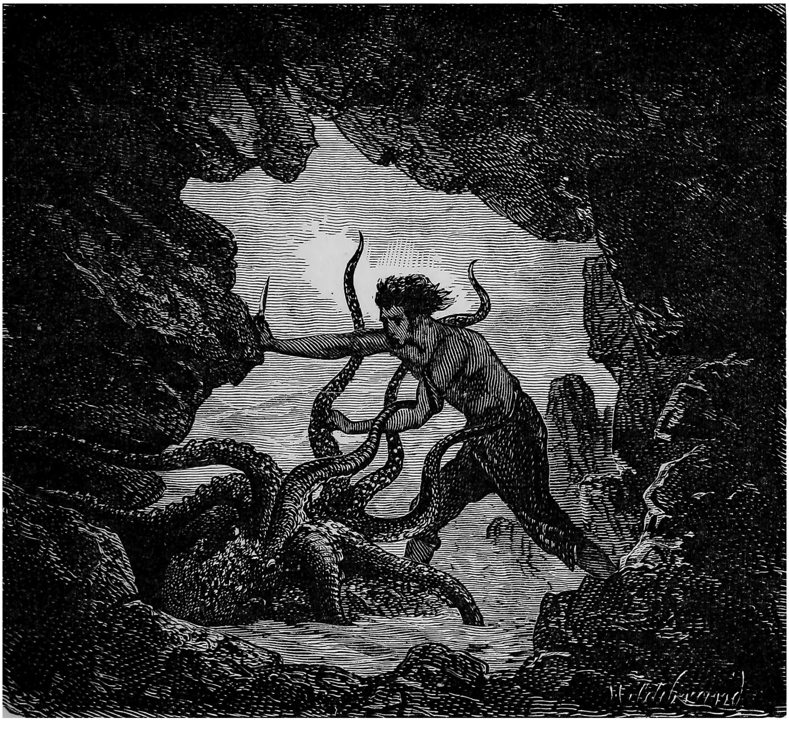


Figure 6.6 Several artists have visualized the fight between a devilfish and Gilliat in the illustrated versions of *Les Travailleurs de la Mer*. Here is an illustration published in J. Gibson's *Monsters of the Sea: Legendary and Authentic* (1887).

Source: Gibson 1887, 138.

Tasmania, and by Rang in the middle of the Atlantic Ocean.[100] Verne locates the scene in which the *Nautilus* encountered cephalopod monsters in the waters around the Bahamas, near the coast of America. However, he did not limit them to this region.[101] Thus, one could understand them as living in all the oceans of the world. Hugo located his vicious and repulsive monster off the coasts of the Channel Islands, very close to France and not far from England.[102] In these novels, no longer did octopus monsters live in distant seas as they had in the late eighteenth and the early nineteenth centuries, but within reach of the readers. This undoubtedly heightened the impact of the tales.

Hugo and Verne described a struggle between a cephalopod and a human. People had had an opportunity to read brief accounts of such encounters before.[103] Thomas Beale had given the most detailed description of such a struggle in his *The Natural History of the Sperm Whale* (1839).[104] But Hugo and Verne described a thrilling combat in far more detail, in which the cephalopod was not merely climbing up a human hand to bite it but aimed to wind its tentacles around its victims to kill them, even to tear away its victims' flesh and to suck their blood. Both of them described the conflicts very effectively, the illustrated editions of their books reinforcing their impact impressively (Figures 6.6–6.8).

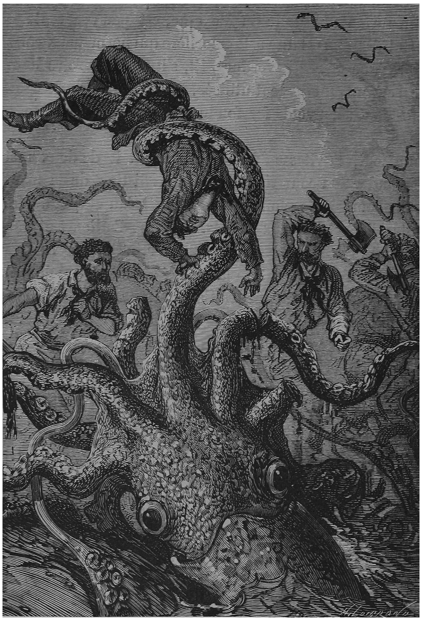


Figure 6.7 The illustration, depicting enormous cephalopods, in Jules Verne's *Vingt mille lieues sous les mers* (1871) affectively demonstrate the truculence of these creatures. This picture showing the head of the cephalopod is among those pictures that have inspired previous studies to interpret Verne's cephalopod monsters as depicting the animal that is known today as the giant squid. Nevertheless, this drawing represent no known animal species, but the mysterious cephalopod monster mentioned in Bouyer's and Berthelot's letters and a sketch by Eugene Rodolphe.

Source: Verne 1871 [1869], 393, 400.

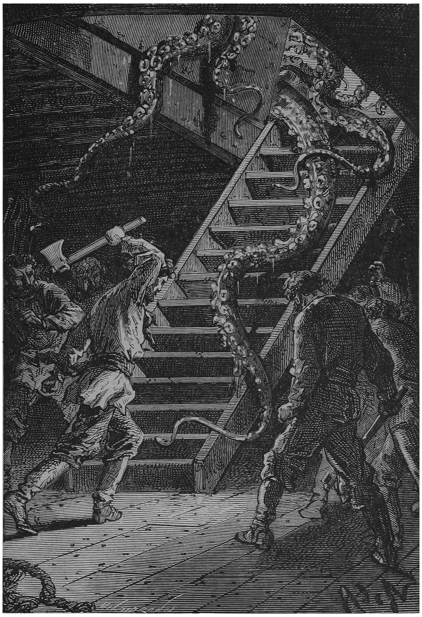


Figure 6.8 This illustration, depicting tentacles of an enormous cephalopod and men attacking them with axes, in Jules Verne's *Vingt mille lieues sous les mers* (1871) shows that the discourse of sailors using hatchets to cut the tentacles of a large cephalopod, mentioned by Antoine-Joseph Pernety as early as the 1700s, was still very much part of the monsterization of cephalopods.

Source: Verne 1871 [1869], 393, 400.

Thus Michelet, Hugo and Verne gave the cephalopods of their books a whole variety of attributes derived from old and new sources. Their images began to define enormous squid from the 1870s onwards after these squid became widely known animals. This did not happen until the premises were created for people to understand these squid as monsters, in this case the massive popularity of the cephalopod monsters of the novels. Eventually, Michelet's *La Mer*, Hugo's *Les Travailleurs de la Mer* and Verne's *Vingt Mille lieues sous les Mer* became famous and influential publications throughout transatlantic culture. All of them have been widely read and translated into various languages.[105]

The historical sources reveal that these novels did not have equal influence on the monsterization of enormous squid in the nineteenth century. As mentioned above, Verne's novel had less impact than modern studies imply. Unlike Verne's novel, Michelet's *La Mer* was huge success in various European countries soon after its publication.[106] Nevertheless, the influence of Michelet's octopus did not so much rest upon widespread recognition of his book, but on its role as an inspiration for other people who depicted octopus monsters in their writings. As noted, Michelet's representation of monster octopuses significantly influenced Hugo's depiction of the devilfish.

It has been mentioned that Michelet's monster octopuses have a close link to the cephalopod monster that Bouyer witnessed near Tenerife, or rather to his description of it. For instance, he writes that the cephalopod is a "vicious embryo," "a figure repulsive and terrible."[107] Bouyer too describes the squid as an embryonic creature, which is a feature that only Michelet had associated with octopuses before him. Bouyer also says that he forbade the crew to retrieve the cephalopod with boats because he was afraid that it could hit them with its "formidable whips loaded with electrical effluvia."[108] The tentacles loaded with "effluvia" was another feature that only Michelet had used to represent his octopus monsters. Hence, Bouyer's description betrays a strong influence from Michelet's tale of primeval monster octopuses. Either Bouyer deliberately fabricated his account of the cephalopod he saw to resemble Michelet's creature, or he had so strongly internalized Michelet's account of octopuses that when he saw the enormous squid, he perceived it as an offspring of Michelet's primeval monster octopuses!

Of these cephalopod monsters, Hugo's devilfish was the one that generated *cephalomania* in transatlantic culture during the late 1860s and revolutionized the transatlantic understanding of cephalopods. As various late nineteenth-century writers such as the director of the Brighton Aquarium, Henry Lee, and more recently Babb have emphasized, the widespread fascination with the octopus was primarily linked to the publication of Hugo's novel.[109] Lee writes in his *The Octopus; or, the 'Devil-Fish' of Fiction and of Fact* (1875):

> Fishermen have been familiar with this animal from times immemorial; but in the modern days, although naturalists have occasionally noted some peculiarities of its structure and habits, public attention was never particularly attracted to it until, within the last few years, Victor Hugo brought it again into notice by the publication of his '*Les Travailleurs de la Mer*'. Since then it has been constantly exhibited in aquaria, and 'Octopus' has become a household word.[110]

As the quotation indicates, the popularity of Hugo's novel catapulted the octopus to the center of public attention on both sides of the Atlantic immediately after publication. The terms that he used to name his octopus became established in different languages. The Guernésias[111] word for the octopus, *pieuvre*, became an official word to mean an octopus in French after Hugo's novel appeared.[112] Similarly, the *devilfish* became a synonym for both octopuses and other cephalopods in English throughout the late nineteenth century.

Hugo's novel made contemporaries interested in octopuses, but also in other cephalopods anatomically resembling them. The novel created a sensation that was manifested in among other things public aquariums, which began to obtain octopuses for their collections. The opportunity to see octopuses was advertised by them with references to Hugo's monster, strengthening further the already prevalent cephalomania.[113] Henry Lee mentions that the *devilfish* became a favorite subject of conversation in Boulogne after the local Aquarium obtained their first captive octopus in 1867.[114] It was this *cephalomania* that made the people of Europe and America excited about octopuses and other cephalopods from the late 1860s on and implanted images of terrifying animals resembling octopuses, epitomized by the devilfish, in their minds. People were induced to define cephalopods encountered in nature as similar to those of Hugo's novel, and this naturally advanced the monsterization of enormous squid. The existence of these squid became widely known only a matter of years after his novel appeared, at the beginning of the 1870s. For instance, people began to know enormous squid by the name *devilfish* from the 1870s onwards.

Altogether, enormous squid did not become widely known animals during the 1860s, as many modern studies of them have stated. In the scientific context, however, their presence was noticeable because the assumption that sizeable cephalopods had to be octopuses, influential in the early nineteenth century, began to wane with growing uncertainty about which species giant-sized cephalopods belonged to. Despite this, the understanding that only the octopus could be a vicious or enormous cephalopod still had a powerful influence in the 1860s. Some contemporary science writers still interpreted all sizeable cephalopods as octopuses. In addition, popular novelists such as Michelet and Hugo explicitly mentioned that only octopuses are monsters among cephalopods. The presence of enormous squid is noticeable in contemporary documents referring to giant-sized cephalopods, but not very apparent in public discourse. The 1860s was the golden age of monster octopuses as well as their swansong. Octopuses became popular animals around the Atlantic during the late 1860s, primarily because of their alleged monstrosity. A mass of speculative and mythical material had accrued around the octopus during the previous century and was quite well-known in public discussion when the existence of enormous squid, physically resembling the concept of enormous octopus, became widely known in the 1870s. As the next chapter will show, the monstrousness of enormous squid was formulated around the discourses and terms that people connected with octopuses in the 1860s.

Notes

1 See, e.g. Heuvelmans 1974b [1958], 346–49; Muntz 1995, 19; Spaeth 1998, 131; Ellis 1999, 5, 78–80; Heuvlemans 2006, 188–90; Hatcher & Battey 2011, 44.

2 See Crosse & Fischer 1861, 138; Moquin-Tandon 1865, 316–17; Landrin 1867, 49.

3 For instance, A. S. Packard hesitated to classify the cephalopod witnessed by the crew of *Alecton* either as an octopus or a squid, even in 1872. However, by the end of the 1870s most zoologists had come to accept that the cephalopod the crew of *Alecton* saw belonged to the genus *Architeuthis*. See Packard 1873, 89; Verrill 1879, 242–43.

4 See, e.g. "Poulpe géant observé entre Madère et Ténériffe." 1861, 1267; Mangin 1868a, 321–28; Mangin 1868b, 288–92; Zurcher & Margollé 1868, 139–42; Meunier 1871 [1868], 245–48.

5 See, e.g. Figuier 1866a, 465–69; Figuier 1866b, 465–69.

6 See, e.g. Mangin 1864, 287; Moquin-Tandon 1865, 312; Figuier 1866a, 463; Figuier 1866b, 463; Landrin 1867, 37–41; Mangin 1868a, 319–20; Mangin 1868b, 286; Zurcher & Margollé, 1868, 136; Moquin-Tandon 1869, 250; Landrin 1870, 33–37.

7 See, e.g. "Poulpe géant observé entre Madère et Ténériffe." 1861, 1267; Crosse & Fischer 1862, 129–31; Mangin 1864, 286–93; Moquin-Tandon 1865, 313; Figuier 1866a, 464; Figuier 1866b, 464; Landrin 1867, 43–44; Mangin 1868a, 320–21;

Mangin 1868b, 287–88; Zurcher & Margollé, 1868, 138; Meunier 1871 [1868], 242; Landrin 1870, 38.

8 See, e.g. “Poulpe géant observé entre Madère et Ténériffe.” 1861, 1267; Mangin 1868a, 321–28; Mangin 1868b, 288–92; Zurcher & Margollé 1868, 139–42; Meunier 1871 [1868], 245–48.

9 Contemporary popular writers and novelists such as Jules Michelet and Victor Hugo, who wrote about enormous or vicious cephalopods in their books, explicitly mentioned that they must be octopuses. See Michelet 1861a, 204–05; Michelet 1861b, 199–201; Hugo 1866a, 92; Hugo 1866b, 95.

10 Names of these naturalists have frequently been confused in modern works. For instance, Heuvelmans mentions Crosse’s name incorrectly as Henri Crosse. This is probably because Crosse abbreviated his name as H. Crosse, using Hippolyte as the basis of the first name. Regrettably, all the modern works about the giant squid have followed Heuvelmans and given Crosse the Christian name “Henri”. See e.g. Heuvelmans 1974a [1958], 81; Heuvelmans 1974b [1958], 520; Heuvelmans 2006 [1958], 40, 312.

11 See e.g. Breure & Fontaine 2019.

12 See, e.g. Saville-Kent 1874, 490; Verrill 1875, 185; Tryon 1879, 149–50; Verrill 1879, 242–43.

13 See e.g. Hume 2022, 138–51, 226–27.

14 See Harting 1861, 13–14.

15 Crosse & Fischer 1862, 125–26, 130–31.

16 The citation is from the English translation of Landrin’s book, published in 1875. The translation roughly corresponds to the original French text. Landrin 1867, 21; Landrin 1875, 26. Parmi les céphalopodes est un genre qui a reçu le nom de *poulpe* (altération du mot latin *polypus*); on appelle généralement ainsi par extension tous les céphalopodes, c’est-à-dire les *poulpes* proprements dits (*pieuvre* ou *chatrouille*), les sèches, les calmars, etc. C’est pourquoi on dit *poulpe géant* en parlant du kraken, bien qu’il soit maintenant reconnu que cet animal est un *calmar gigantesque*.

17 Melville 1922 [1851], 352.

18 Landrin 1867, 30; Landrin 1870, 28–29; Landrin 1875, 42–43.

19 Ley 1941; Heuvelmans 1974a [1958], 139–43. Undoubtedly following the lead of Heuvelmans and Ley, various writers have recently emphasized the connection between enormous cephalopods and Scylla. See e.g. Heuvelmans 1974a [1958], 59; Ellis 1999, 10–11; Heuvelmans 2006 [1958], 29; Lyons 2009, 20; Williams 2011, 15; Barrère 2014, 41–50; Westwood & Moss 2015, 61–79.

20 Landrin 1867, 52; Landrin 1870, 45; Landrin 1875, 62.

21 Before Landrin, for instance, Bosc and Denys de Montfort stated that the mythical Kraken was a name given to enormous octopuses that Scandinavian sailors saw in the northern seas. See Bosc 1801, 36; Denys de Montfort 1801–02, 386–412. Landrin explicitly reiterated the same narrative, with the exception that he replaced the enormous octopuses with enormous squid. Melville, who also speculated that there was a connection between giant-sized squid and the Kraken, only mentioned that Pontoppidan’s Kraken might be the squid, whereas Landrin told a detailed story how Norwegian fishermen gave this name to sizeable squid. See Melville 1922 [1851], 352; Landrin 1867, 52; Landrin 1870, 45; Landrin 1875, 62.

22 For instance, A. S. Packard and Moses Harvey referred to a similar idea about the origins of the Kraken. They may not have known that Landrin had presented a similar theory in his book, published in 1867. I suggest that Pontoppidan’s story of the Kraken, representing fishermen as searching the bottom of the sea for this mythical creature, said that whatever this Kraken was, the fishermen had given it that name. Thus the understanding that the mythical Kraken derives from seafaring culture is easily acquired from reading Pontoppidan’s treatise, or one of the numerous copies of the section

discussing the Kraken. See e.g. Packard 1872; Harvey 1874, 198. See also *The Globe* 8.2.1879; *Montreal Gazette* 28.11.1881.

23 Crosse & Fischer 1862, 138.

24 Moquin-Tandon 1865, 317; Landrin 1867, 51; Moquin-Tandon 1869, 253; Landrin 1870, 45; Landrin 1875, 61.

25 According to Crosse and Fischer, the "frightening fixity" of the eyes of this squid excluded the "mobile eyes", which are typical of *Ommastrephes*, belonging to the suborder *Oegopsida*. As the squid belonged only in two suborders, *Oegopsida* and *Myopsina*, Crosse and Fischer argued that this squid belonged among *Myopsina*. In the *Myopisna* the dominant family is *Loliginidae*, which is why they concluded that it belonged to the genus *Loligo Lamarck*. Ibid.

26 Crosse & Fischer 1862, 137–39. See also Harting 1861, 13.

27 Moquin-Tandon 1865, 316–17.

28 See the note 1 in Landrin 1867, 49; Landrin 1870, 43; Landrin 1875, 57. Landrin was undoubtedly aware of the work by Crosse and Fischer because he referred to their article. See Landrin 1867, 51; Landrin 1875, 61.

29 See, e.g. "Poulpe géant observé entre Madère et Ténériffe." 1861, 1267; Mangin 1864, 286–93; Moquin-Tandon 1865, 310–17; Landrin 1867, 42–52; Mangin 1868a, 318–28; Mangin 1868b, 286–95; Zurcher & Margollé 1868, 136–42; Meunier 1871 [1868], 240–60; Moquin-Tandon 1869, 249–53; Landrin 1870, 37–45; Landrin 1875, 53–62.

30 "Poulpe Géant observé entre Madére et Tènèriffe" 1861, 1267.

31 Mangin 1864, 286–93; Mangin 1868a, 318–28; Mangin 1868b, 286–95.

32 Moquin-Tandon 1865, 310–17; Moquin-Tandon 1869, 249–53.

33 Landrin 1867, 42–52; Landrin 1870, 37–45; Landrin 1875, 53–62.

34 See, e.g. Zurcher & Margolle 1868, 136–42; Meunier 1871 [1868], 240–60. In England, the malacologist John Gwyn Jeffreys writes in his *British Conchology* (1869) that cephalopods comprise the giants among Mollusca and that Steenstrup collected "trustworthy accounts of such monsters." Jeffreys's account, however, does not explicitly describe the species of these cephalopods, but only mentions that they belong to the cephalopods. Jeffreys 1869, 124

35 Figuier 1866a, 452–69; Figuier 1866b, 450–84. In 1872, Cassel, Petter, Galpin & Co. published *The Ocean World*, which was mentioned to be a translation of Figuier's book by E. Perceval Wright. However, Figuier wrote no such book. It seems that *The Ocean World* took material from several of Figuier's books such as *La vie et le murs de animaux* (1866), and probably various other sources. For instance, the chapter discussing cephalopods in *The Ocean World* is completely different than the ones in Figuier's original works. See Figuier 1872.

36 In addition to Figuier, contemporary popular writers and novelists such as Jules Michelet and Victor Hugo explicitly state in their books that only octopuses are able to grow enormous and only they are vicious. See Michelet 1861a, 204–05; Michelet 1861b, 199–201; Hugo 1866a, 92; Hugo 1866b, 95.

37 See the Figures 6.1–6.4.

38 See the Figure 6.5. See 2E^6 2823, SHD.

39 Bouyer 1862.

40 See, e.g. Ley 1941, 11; Heuvelmans 1974a [1958]; Heuvelmans 1974b [1958]; Muntz 1995, 21; Ellis 1999, 168; Ellis 2006 [1995], 120; Heuvelmans 2006 [1958]; Hynes 2012, 10–11; Barrère 2014, 38, 138, Salvador & Tomotani 2014, 975, 978.

41 See, e.g. Caillois 1973, 63–71; Ellis 1999, 5, 78–80.

42 See Harting 1861.

43 "Poulpe Géant observé entre Madére et Tènèriffe" 1861, 1267.

44 See Crosse & Fischer 1862.

45 See, e.g. Michelet 1861a, 199–206; Bouyer 1862; Mangin 1864, 280–92; Moquin-Tandon 1865, 309–17; Bouyer 1866, 275–76; Figuier 1866a, 462–69; Figuier 1866b,

462–69; Bouyer 1867, 19–23; Landrin 1867, 21–52; Mangin 1868a, 312–28; Meunier 1871 [1868], 234–60; Zurcher & Margollé 1868, 135–42; Landrin 1870, 21–45.

46 Schleiden 1867, 468–74.

47 Mangin 1864, 290–93; Mangin 1868a, 324–28; Mangin 1868b, 290–95.

48 Adamowsky mentions that Richard Owen would also have denied the existence of enormous cephalopods, but she does not explain why she says this and I have not discovered any document among Owen's writings that backs up her statement. Adamowsky 2015, 90.

49 Mangin 1864, 290–93.

50 Mangin 1868a, 324–28.

51 Mangin had good reason to doubt the account, which claimed that the flesh of the cephalopod was so tough that it resisted harpoons, whereas the noose with which the crew lifted the animal aboard cut it in half. The account also suggested that the animal had weighed several tons. See Mangin 1868a, 326; Mangin 1868b, 292.

52 Heuvelmans denounces Mangin as a "sterile skeptic," who represented the blind and incredulous scientists denying the existence of creatures such as the giant squid, regarding it as incredible. Thus, Heuvelmans understands Mangin, like all the other skeptics, whom he considers as the enemies of cryptozoology, only as trying to deny the existence of mythical animals. The main problem with Heuvelmans's arguments is his insistence on understanding the enormous squid as a mythical monster. See Heuvelmans 1974b [1958], 352–58; Heulvelmans 2006 [1958], 191–95. Moreover, I suggest that Heuvelmans handling of Mangin's text in his book has inspired various other writers who have looked at the natural history of the giant squid to state that the existence of enormous squid had been generally denied by naturalists in the past. See e.g. Muntz 1995, 19; Fanthorpe 2004, 62; Frank 2014, 119; Westwood & Moss 2015, 61–79.

53 As Foucault states, the quality of monstrosity is situated in the empty spaces separating all the classified entities from one another. Foucault 2002 [1966], xvii.

54 See "Poulpe Géant observé entre Madére et Tènèriffe" 1861.

55 See, e.g. Knight 1873, 699; Packard 1873, 89; Harvey 1874, 200; *Citizen* 1.6.1874; *Montreal Gazette* 9.1.1874; *The Royal Gazette* 10.2.1874; Lee 1875, 109; Lee 1883, 38–41.

56 See, e.g. Caillois 1973, 64–71; Muntz 1995, 19–22; Ellis 1999, 5, 78–79; Heuvelmans 2006 [1958], 185–95; Blackmore 2009, 22; Westwood & Moss 2015, 61–78; Adamowsky 2015, 89–90.

57 See the Figure 6.4 and 6.5.

58 See, e.g. Heuvelmans 1974b [1958], 346, 349; Heuvelmans 2006 [1958], 188, 190; Barrère 2014, 83–84. For instance, Heuvelmans writes that after the record of the session of the Academy was published, naturalists feverishly began to gather evidence about these animals. He mentions that Bénédict-Henry Révoil and Henri de Lacaze-Duthiers began to study these animals. Nevertheless, none of the works by these writers explicitly looks at enormous squid. Undoubtedly, Heuvelmans referred to Landrin's book, in which Landrin states that Révoil had talked with an American captain whose ship was attacked by a gigantic octopus in 1836. According to Landrin, this captain cut a tentacle from this octopus, which Révoil saw in the Barnum Museum. See Révoil 1863; Landrin 1867, 44; Landrin 1870, 39; Landrin 1875, 55–56. I have not found the sources mentioned by Heuvelmans, which could demonstrate the veracity of Lacaze-Duthier's studies about enormous cephalopods living in the English Channel.

59 See, e.g. *The Morning Post* 10.1.1862; *The Manchester Times* 11.1.1862; *Reading Mercury* 18.1.1869; *La Lumiére* 30.1.1862; *La Monde Illustré* 22.2.1862.

60 See *Crisis* 24.2.1869. According to the searches that I made into the Readex database of America's Historical Newspapers, the Columbian newspaper *Crisis*, in the state of Ohio, published the first news about the case of *Alecton* in the United States.

61 Mangin's book *Les mystères de l'océan* (1864) was translated into English in 1868. Moquin-Tandon's *Le Monde de la Mer* (1865) into English in 1869. Landrin's *Les Monstres Marins* was translated into Spanish in 1870 and English in 1875. See e.g. Mangin 1868b; Moquin-Tandon 1869; Landrin 1875.

62 Heuvelmans 1974b [1958], 356–58; Heuvelmans 2006 [1958], 194–95.

63 On the discovery of life in the great depths, see Rozwadowski 2005, 15–16, 34–35, 136–60; Anderson & Rice 2006. On the discussion about evolution theory in the 1860s, see Moore 1991; Engels & Glick 2008.

64 Michelet wrote that prehistoric birds destroyed these creatures. He writes that these birds belonged "perhaps, for instance, to the *Epiornis*." Michelet 1861a, 203–04; 1861b, 198–99. The birds that Michelet mentioned as destroying his imagined monster-octopuses are extinct birds called "elephant birds", enormous flightless birds, whose eggshells the French zoologist Geoffroy Saint-Hilaire brought to Europe in the 1850s. Undoubtedly, the discussion about these birds inspired Michelet to choose them as the vanquishers of the monstrous octopuses during the prehistoric era. See e.g. Mlíkovský 2003, 133–34.

65 Hugo 1866a, 99–104; Hugo 1866b, 101–07.

66 Verne 1871 [1869], 386–96.

67 Michelet 1861a, 204; Michelet 1861b, 199; Hugo 1866a, 92; Hugo 1866b, 96.

68 See e.g. Caillois 1973, 73–87; Heuvelmans 1974a [1958], 59–107; Heuvelmans 2006 [1958], 29–53; Babb 2009.

69 See, e.g. Heuvelmans 1974a [1958], 112–13; Heuvelmans 2006 [1958], 57.

70 Many of the previous modern studies have tried to guess the specimen behind Verne's ambiguous description of an enormous cephalopod. Because the text does not reveal the answer, these studies ended up analyzing illustrations in Verne's book. For instance, Caillois states that the number of tentacles in the arms of these cephalopods indicates that Verne understood these cephalopods as octopuses. Muntz also emphasizes that Verne's cephalopods were octopuses. By contrast, Adamowsky argues that the illustrations expose Verne's intent to represent giant squid with his cephalopod monsters. Caillois 1973, 95; Muntz 1995, 15–16; Salvador & Tomotani 2014, 975; Adamowsky 2015, 87–88.

71 The connection between Bouyer's narrative and Verne's description of the cephalopods attacking the *Nautilus*, is clear. Verne even mentions in his book that one of the enormous cephalopods the main characters of Verne's novel saw was the same that the crew of *Alecton* tried to haul on board their ship. Imaginatively, Verne invented a story that the part of the cephalopod that sunk into the sea after *Alecton's* hoisting rope had cut it in two regenerated as a whole cephalopod. Apparently, Verne thought that this cephalopod had swum to the Bahamas, where it joined other enormous cephalopods in their assault on the *Nautilus*. Verne 1871 [1869], 391–94. See also Caillois 1973, 64; Heuvelmans 1974b [1958], 342; Costello 1978, 107; Heuvelmans 2006 [1958], 185.

72 Babb 2009, 20–24.

73 See, e.g Heuvelmans 1974a [1958], 64–107; Heuvelmans 2006 [1958], 31–53; Babb 2009; Adamowsky 2015, 86–87.

74 Heuvelmans 1974a [1958], 79; Heuvelmans 2006 [1958], 38–39; Adamowsky 2015, 86.

75 See, e.g. Caillois 1973, 73–104; Heuvelmans 1974a [1958], 79–80; Heuvelmans 2006 [1958], 39; Adamowsky 2015, 86.

76 See, e.g. Heuvelmans 1974b [1958], 341–46; Costello 1978, 107; Bright 1989, 153; Jeans 2004, 283; Heuvelmans 2006 [1958], 185–88; Adamowsky 2015, 89.

77 See, e.g. Adamowsky 2015, 83–92.

78 For instance, the first English translation of *Vingt mille lieues sous les mers* appeared in 1873. The translator cut a lot of Verne's original text and made numerous translation errors. The revised English translation of Verne's book did not appear until 1966.

The impetus for the new translation emerged after Disney had filmed the novel in 1956. I suggest that it was this movie, in which the scene depicting the attack of enormous squid against Nautilus was very effectively produced by using the latest technology, made Verne's cephalopod monsters a sensation in transatlantic culture. See e.g. Ellis 1999, 168–70. Although the Verne-biographer Arthur B. Evans states that critics celebrated Verne as one of the most popular novelists during the latter part of the nineteenth century, the English translation of Verne's *Vingt mille lieues sous les mers*, for instance, was not a success. The few reviews in British newspapers merely emphasized the novel as "certain favourite of with boys". Nonetheless, the most specific indication that Verne's impact to the monsterization of enormous squid was insignificant during the late nineteenth century is the lack of references to his books among the texts that discuss giant-sized squid during this period. Hence, I suggest that the influence of Verne's cephalopod monsters to the transatlantic understanding of giant-sized squid did not begin before the twentieth century. See Evans 1988, 2. About the reviews see e.g. *The Graphic* 18.1.1873.

79 See, e.g. Heuvelmans 1974a [1958], 64–35; Heuvelmans 2006 [1958], 31–67; Babb 2009; Adamowsky 2015, 83–92.

80 Babb 2009, 20–24.

81 See, e.g. Rozwadowski 2005, 3–35; Adamowsky 2015, 73–99.

82 On Michelet's enthusiasm for the natural sciences, see Orr 1976; Gossman 1999. On Verne's interest in these sciences, see e.g. Costello 1978; Evans 1988; Unwin 2000.

83 Hugo wrote *Les Travaillerus de la Mer* while he was in exile on the isle of Guernsey, located in the English Channel. As John Andrew Frey mentions in his *A Victor Hugo Encyclopedia* (1999), the ocean and its destructive power is the main motif of the novel. The sea devastates sailors and ships, but the main character of the novel, Gilliat, epically overcomes this perilous element. The novel linguistically describes expressively the sea and its reefs, as the expressionist paintings did at the beginning of the twentieth century. See Frey 1999.

84 Hugo 1866a, 83–97; Hugo 1866b, 84–100.

85 Heuvelmans 1974a [1958], 79; Heuvelmans 2006 [1958], 38–39; Adamowsky 2015, 86.

86 Michelet 1861a, 202–03; Michelet 1861b, 197–98; Hugo 1866a, 88–89; Hugo 1866b, 89–91. Verne also indirectly refers to Denys de Montfort's story about the St. Malo *ex-voto*, depicting a colossal octopus that tries to pull a ship down into the depths. Verne 1871 [1869], 389–90.

87 Michelet 1861a, 202; Michelet 1861b, 197; Verne 1871 [1869], 389–91.

88 Michelet 1861a, 203; Michelet 1861b, 198; Hugo 1866a, 88; Hugo 1866b, 89; Verne 1871 [1869], 389.

89 See Michelet 1861a, 199–206; Michelet 1861b, 194–201; Hugo 1866a, 83–97; Hugo 1866b, 84–100; Verne 1871 [1869], 386–96.

90 See Hugo 1866a, 99–104; Hugo 1866b, 101–07. Pliny the Elder introduced this discourse already in his *Naturalis Historia*. Thereafter, numerous natural-historical treatises reiterated this discourse. See Plin. Nat. 9.91–9.93.

91 Verne 1871 [1869], 396–96.

92 The translation is based on the English edition of Michelet's book *The Sea* (1861). Michelet 1861b, 196–97. To read the quote in the original French, see Michelet 1861a, 201–02. Il offre l'aspect étrange, ridicule, caricatural, s'il n'était terrible, de l'embryon allant en guerre, d'un foetus cruel, furieux, mou, transparent, mais tendu, soufflant d'un souffle meurtrier. Car ce n'est pas pour se nourrir uniquement qu'il guerroie. Il a besoin de détruire. Même ras sasié, crevant, il détruit encore. Manquant d'armure défensive, sous son ronflement menaçant, il n'en est pas moins inquiet; sa sûreté, c'est d'attaquer. Il regarde toute créature comme un ennemi possible. Il lui lance à tout hasard ses longs bras, ou plutôt ses fouets armés de ventouses. Il lui lance, avant tout

combat, ses effluves paralysantes, engourdissantes, un magnétisme qui dispense du combat.

93 See Orr 1976, 11–12.

94 Orr writes that Michelet was familiar with Geoffroy Saint-Hillaire's study of embryology and that he found a way to describe monstrousness using this branch of science. Orr 1976, 41–42.

95 Similarly, as embryology, I suggest that galvanism, the theory that electricity generates biologically, and mesmerism, also called "animal magnetism," the assumption that all living beings possess invisible natural forces, influenced Michelet's descriptions of monster octopuses. Both galvanism and mesmerism had appeared in the eighteenth century, but their cultural influence was noticeably greater in the nineteenth century. For instance, galvanism inspired Mary Shelley in the creation of *Frankenstein* (1831). On galvanism, see Cajavilca, Varon & Sternbach 2009. On mesmerism, see e.g. Darnton 1969. On Shelley and galvanism, see Marsh 2009, 118. See also Willis 2006.

96 See, e.g. Hugo 1866a, 87, 90; Hugo 1866b, 88, 92.

97 Hugo 1866a, 91–92; Hugo 1866b, 93–94.

98 Guéroult 1802, 80–81.

99 See Ritvo 1987, 29–30.

100 Michelet 1861a, 202; 1861b, 197. See also Péron 1807, 216; Rang 1829, 86.

101 Verne 1871 [1869], 388.

102 Hugo 1866a, 88; Hugo 1866b, 89.

103 For instance, Thomas Beale wrote an account of the octopus he found on Bonin Island, and Sir Grenville Temple described a Sardinian captain that an octopus drowned while he was bathing in the sea. Temple 1835, 139–40; Beale 1839, 68.

104 Beale 1839, 68. Beale's description of his encounter with an octopus on Bonin Island was a widely referred story from which Samuel Goodrich published an effective illustration. See Goodrich 1859, 498. See also the Figure 2.1.

105 Michelet's *La Mer* appeared in English and German in the same year that Hatchette published the first French edition of this book in 1861. See Michelet 1861a; Michelet 1861b; Michelet 1861c. See also Gossman 1999, 284–85. Hugo's *Les travailleurs de la Mer* also appeared in various languages during the year when Hatchette published the first French edition of this novel in 1866. In addition to English and German translations, there were editions in Polish, Spanish, and Swedish, all of which appeared in the same year as the first French edition. See Hugo 1866b; Hugo 1866c; Hugo 1866d; Hugo 1866e; Hugo 1866f. By contrast, translations of Verne's *Vingt Mille lieues sous les mer* (1869) appeared mainly during the 1870s. For instance, the English translation of this novel appeared in 1873 and the German translation in 1874. See e.g. Bleiler 1990, 760; Klotz 1999, 101.

106 See, e.g. Kippur 1981, 201.

107 ”Poulpe géant observé entre Madère et Ténériffe” 1861, 1264.

108 ibid.

109 See Lee 1875; Babb 2009.

110 Lee 1875, xv; Babb also uses the same quote in his article. See Babb 2009, 20.

111 Guernésias is a variety of old Norman French spoken on the isle of Guernsey.

112 Caillois 1973, 80. See also Barrère 2014, 84.

113 The aquariums also appealed to Hugo's monstrous description to attract audience. For instance, the aquarium in Crystal Palace advertised its octopus in various newspapers as "The extraordinary monster which Victor Hugo describes in his Toilers of the Sea", with a quote from Hugo's book. See e.g. *The Manchester Guardian* 18.11.1871; *Nottinghamshire Guardian* 24.11.1871; *The Observer* 3.12.1871. Henry Lee writes that people visited aquariums daily in the hope of getting a better sight of the *devilfish.* Lee 1875, 7. On the public aquariums, see Brunner 2005, 58, 99–120.

114 Lee 1875, 7.

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7 The emergence of the giant squid and how it became a monster

During the last three decades of the nineteenth century, there occurred numerous significant discoveries and events in the world. Various inventions were made such as the phonograph, the telephone, and the electric light bulb. The first automobiles were also introduced to a wider public and the Lumière brothers began to organize the first commercial public screenings in 1895, which has been regarded as the birth of cinema. One of the most destructive volcanic events in near history occurred, when Krakatoa, a volcano in Indonesia, erupted in 1883. In addition, Jack the Ripper evoked fear in London in the 1880s, and the Atlas bear, the only native bear species of Africa habituating the Atlas Mountains between Morocco and Libya, went extinct during the last decades of the nineteenth century.

Although numerous things were happening all around the world, the ocean and its depths were still a mystery thrilling the transatlantic audience as well as the scientific community and the popularisers of natural history. The *Challenger* expedition was sent out in the 1870s to explore the ocean and, before anything else, the underwater life. The expedition has been later mentioned to create a basis for scientific oceanography and several expeditions in the late nineteenth century followed its example. One of such was, for instance, the German deep-sea expedition with the ship *Valdivia*. It was led by the German marine zoologist Carl Chun, who specialized in cephalopods and plankton. During this expedition, Chun and his crew discovered a squid, which he named *Vampyroteuthis infernalis*, meaning a vampire squid from hell. It is also an example of the ways how scientists among other people connected monstrous features to cephalopods in the nineteenth century.

Overall, the transatlantic culture in the late nineteenth century still placed various beliefs on the oceanic world and monsterized it in various ways. For instance, there occurred more recorded sea serpent sightings in the last decades of the nineteenth century than ever before. There were also many scientists, who believed that prehistoric marine dinosaurs, from which there were only fossils to be found, were perhaps still living in the great depths of the sea.

Considering this and the human relationship with cephalopods during the previous decades, it is actually not difficult to understand why the giant squid was monsterized soon after it was scientifically discovered, and it has become a widely known marine animal during the last three decades of the nineteenth century. This

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chapter thus explores how giant-sized squid were defined in zoology and public discussion from the 1870s to the 1890s.

The zoological analysis of enormous squid

The classification of enormous squid exceeding the size of *Ommastrephes* during the last three decades of the nineteenth century removed some of the zoological uncertainty about enormous cephalopods. Above all, it indicated that the giant-sized cephalopods were squid, not octopuses. Mainly due to the information that some inhabitants of coastal towns sent to contemporary zoologists, these scientists got the opportunity to study giant-sized squid. This malacological study of enormous squid, especially those discovered in Newfoundland but including some others, showed that numerous slightly different giant-sized squid lived in the oceans. Because of their structural differences, zoologists faced challenges in classifying them under the same genus. Nevertheless, they got a common name – *giant squid*. Despite these developments in squid study, contemporary zoologists who researched enormous squid failed in restricting speculation about them, especially in the public discourse. Their main achievement was to expose that enormous cephalopods were squid and not octopuses, which the public came to understand. However, contemporary zoologists were not able to say anything about the life of these squid, so they remained wrapped in a veil of mystery, making them easy subjects of speculation and monsterization.

Modern studies of the giant squid have also analyzed the zoological advances in the study of enormous squid in the 1870s and 1880s. For instance, Heuvelmans correctly points out that the taxon *Architeuthis* became famous during the last decades of the nineteenth century.[1] Unfortunately, he and numerous others who have written about the history of the giant squid have understood this period as one phase in a long history of interaction between humans and the "giant squid." Most of these studies emphasize that the history of the giant squid begins earlier than 1870, and they also assume that human culture has barely altered throughout the human-squid interaction.[2] In fact, even within the nineteenth century human cultural understanding of natural phenomena changed. *Giant squid* as a specific term did not exist until the 1870s, and this has important implications as language both reflects cultural concepts and influences them. The term *giant squid* is not a universal synonym for enormous squid, but a historically formulated term, used to conceptualize *Architeuthis* since the late 1870s.

The existence of enormous squid emerged as a widely discussed topic in scientific conversation during the period from the 1870s to the 1890s. During this era, zoologists made the first widespread analysis of large squid and tried to determine their biology. However, the zoological classification of the species of enormous squid that became the giant squid was not a simple task for late nineteenth-century zoologists. They did not have the technology available to the marine biologists of today, and they did hardly any fieldwork.[3] Moreover, enormous squid mainly appeared in regions where people did not perceive them as scientifically important animals.[4] Numerous giant-sized squid undoubtedly ended up as fish bait, dogfood or fertilizer without any record of their ever having existed.

From the 1870s onwards, knowledge about enormous squid began to spread in both scientific and public discussion. Modern studies have suggested that this occurred because enormous squid appeared on the surface more than ever before and especially in or around Newfoundland. In other words, the prevailing theory is that some natural phenomenon or phenomena caused the mass surfacing of enormous squid between the 1870s and the 1890s.[5] The ocean currents near Newfoundland undoubtedly influenced the appearance of enormous squid from the 1870s onwards, and natural phenomena also affected appearances of these squid in other sea regions. Nevertheless, Newfoundland was by no means the only region where people encountered enormous squid during the last decades of the nineteenth century.

Whether or not changes in ocean currents caused more squid to appear on the water's surface, there was another reason for the increasing focus on giant-sized squid from the 1870s to the 1890s. The perception of enormous squid as scientifically important animals had appeared already in the 1850s, not only among zoologists. As the papers by Steenstrup and Harting indicate, seafarers brought carcasses of sizeable squid to different institutions just after mid-century.[6] The idea that marine animals were scientifically important subsequently spread, so that the enthusiasm for science became one of the central discourses in transatlantic culture during the late nineteenth century.[7] In addition, the sea and its inhabitants still had a central role in the prevailing culture of both North America and Western Europe.[8] Of the marine animals, octopuses and other animals resembling them attracted the greatest enthusiasm from the 1860s onward – the *cephalomania.*[9] The news about the sightings of giant-sized squid in Newfoundland in 1873, which became a transatlantic sensation, undoubtedly persuaded people that the enormous squid was a remarkable animal. From then on people began to disseminate information about encounters with large squid occurring elsewhere to zoologists and write reports about them in different publications.

Many studies have emphasized Moses Harvey's contribution to the study of giant-sized squid.[10] However, he was not the only person to inform scientists about huge squid. The geologist Alexander Murray also notified zoologists about the encounter between fishermen and enormous squid in Conception Bay, Newfoundland, in 1873.[11] Neither were Harvey and Murray the first to inform zoologists about sightings of giant-sized squid in Newfoundland waters. The director of Dodd, Tarr & Co.,[12] James G.Tarr, the Newfoundland clergyman A. Munn and the Newfoundland judge and politician Thomas R. Bennett have that distinction. All told zoologists about the sizeable squid spotted in Newfoundland waters. For instance, the American naturalist Alpheus Spring Packard received information about the enormous squid one of Tarr's ships, the *B.D. Haskins*, had picked up on Grand Banks in 1871, from Tarr himself.[13] The American malacologist Addison Emery Verrill received information about the giant-sized squid that surfaced near Bonavista in 1872 from the local minister, A. Munn. At the time he had informed the naturalist Spencer Fullerton Baird, in Newfoundland about the giant-sized squid, and Baird passed on the information to Verrill. Moreover, Verrill received a letter from Bennett, forwarded to him by Baird, in which the former gave him details of the giant-sized squid that was captured at Coomb's Cove, Fortunate Bay, Newfoundland in 1872.[14]

Tarr, Munn, and Bennett saw enormous squid as such significant animals that they felt they had to inform someone about their discovery. They were obviously influenced by the contemporary cultural discourses that represented enormous squid as remarkable animals worthy of study, not just useful flesh. As in previous decades, the majority of the inhabitants of regions like Newfoundland where enormous squid appeared still perceived these animals as significant only insofar as they had value as bait, fertilizer or nourishment for their companion animals.[15] Murray, who, alongside Harvey, informed zoologists of the enormous squid encountered in Conception Bay in 1873, undoubtedly saw this squid as scientifically crucial because of his education as a geologist.[16]

Harvey's scientific enthusiasm for giant-sized squid, on the other hand, was above all a result of *cephalomania*, particularly his passion for Victor Hugo's devilfish. His newspaper articles as well as his scrapbooks expose Harvey's enthusiasm for Hugo's novel *Les Travailleurs de la mer* and especially his interest in the devilfish. This creature appears in Harvey's writings even before he heard about the discoveries of enormous squid in Newfoundland.[17] Harvey informed the Natural Historical Society of Montreal about the squid of Conception Bay by letter.[18] Similarly, the esteemed zoologist Louis Agassiz heard what had happened in Conception Bay from Murray's letter.[19]

Harvey, however, was not just interested in letting scientists know of the squid, which he believed to be an enormous devilfish like that in Hugo's novel. He strove to inform the whole world of it, writing articles about it in several British and American newspapers and journals. As a result, numerous zoologists and popularizers of science such as the British marine biologist William Saville-Kent also became interested in huge squid. The sensation caused by Harvey's newspaper articles rested upon numerous interesting details, but the feature that undoubtedly appealed to various naturalists was the photograph of the tentacle that had been cut from the Conception Bay squid and which illustrated some of Harvey's articles.[20]

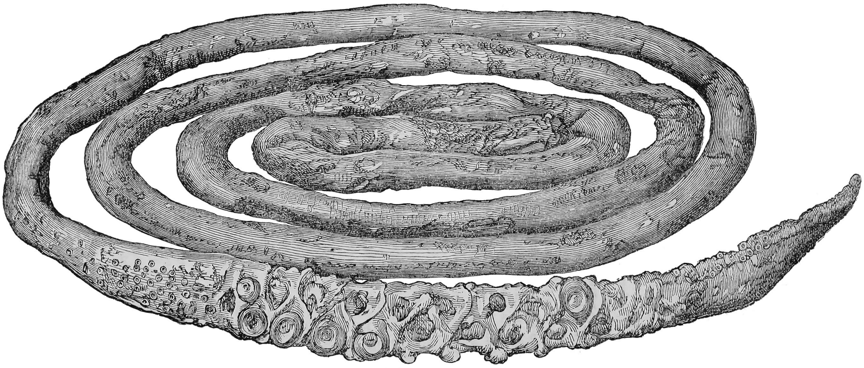


Figure 7.1 The photo-facsimile of the tentacle that fishermen cut from the squid in Conception Bay and brought to Harvey in October 1873.

Source: Harvey 1874, 68.

As the photograph of the tentacle indicates, the knowledge that these people disseminated to scientists about enormous cephalopods was not merely textual. In addition to written and verbatim accounts about enormous squid, zoologists now received visual documents such as photographs and solid body parts. These photographs and body parts raised the study of enormous squid to a whole new level because they offered empirical material for malacologists.

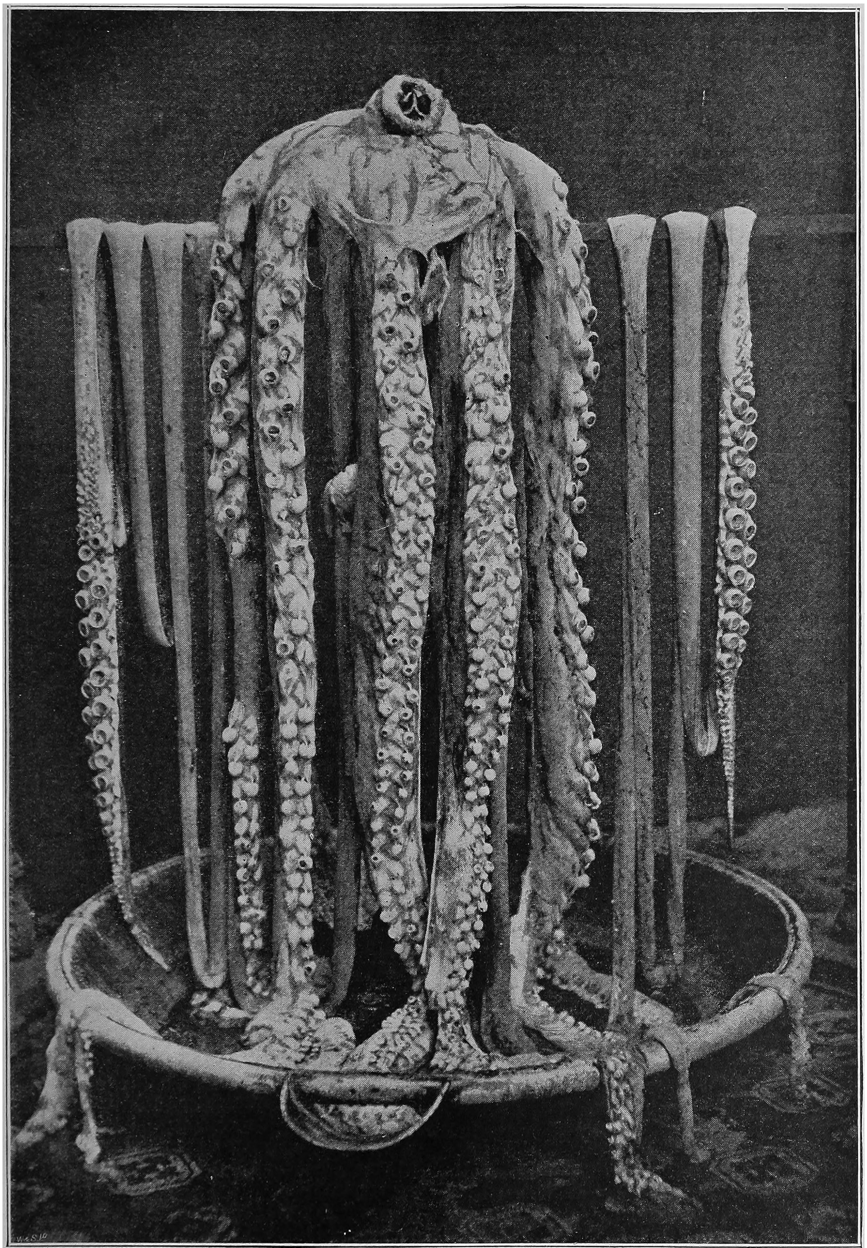
Packard had already received a photograph of the beak of the squid that one of the crew members of *B.D. Haskins* had taken for himself. According to Packard, he tried to buy this beak, but the fisherman would not part with it. With the assistance of Tarr, Packard obtained a photograph instead.[21] Thus, in addition to a written account, Packard now had an accurate image of part of the enormous squid, just as Steenstrup and Harting had had parts before him.[22] In addition to a verbal account, Munn also gave a piece of a tentacle and the beak of the squid discovered near Bonavista in 1872 to Baird, who conveyed the remnants to Verrill. Verrill now had real pieces of enormous squid as well.[23]

Harvey, who owned the tentacle of the squid encountered in Conception Bay, also bought the carcass of the giant-sized squid from the fishermen who discovered it in Logy Bay in 1873. He declared in his newspaper articles that he had now the only pieces of this “monster” in his possession and that he was going to wait and see which of the scientific institutes would bid most for these remnants of squid.[24] After Agassiz died in the December 1873, Harvey shipped the squid discovered in Logy Bay to Verrill.[25] Before this, Verrill had also received the original photographs of the tentacle and carcass owned by Harvey.[26]

The zoological study of enormous squid thus began in the 1870s, when the few people who perceived enormous squid as more than just useful material informed the broader audience about their findings. Presumably the popular discourses guided their perceptions of these animals, but the newly developing ways of disseminating knowledge furthered the flow of information.[27] Moreover, new methods of recording findings of squid, such as photography, hugely advanced the study of giant-sized squid, especially when the bodies of squid decomposed quickly when out of the water.[28]

Packard, Verrill, and other contemporary zoologists who studied enormous squid discovered in the seas during the period from the 1870s to the 1890s took full advantage of the new methods. Both Verrill and Packard, who attained knowledge and concrete evidence about the enormous squid discovered in Newfoundland, based their study of these animals on observation of the photographs and actual body parts of these squid.[29] The study of them no longer rested largely on speculation as it had during the previous decades.

Verrill observed the carcass of the squid shown found in Logy Bay in 1873, and various other pieces of enormous squid that he had received. Verrill added a drawing of the squid discovered in Logy Bay in his research article in 1875, which became the first anatomically accurate depiction of the *Architeuthis*.[30] It was Verrill who concluded that they belonged to the species of *Architeuthis*.[31] Both he and Packard had concluded that these squid discovered in Newfoundland represented



THE HEAD AND ARMS OF DR. HARVEY'S IMMENSE OCTOPUS—WHEN LAID OUT THE MONSTER MEASURED 51FT. FROM ONE TENTACLE TIP TO THE OTHER.
From a Photo. by] [*the Author, Rev. Dr. Harvey.*

Figure 7.2 The photo of the carcass of the squid that fishermen found in Logy Bay and sold to Harvey in November 1873.

Source: Harvey 1899, 737.

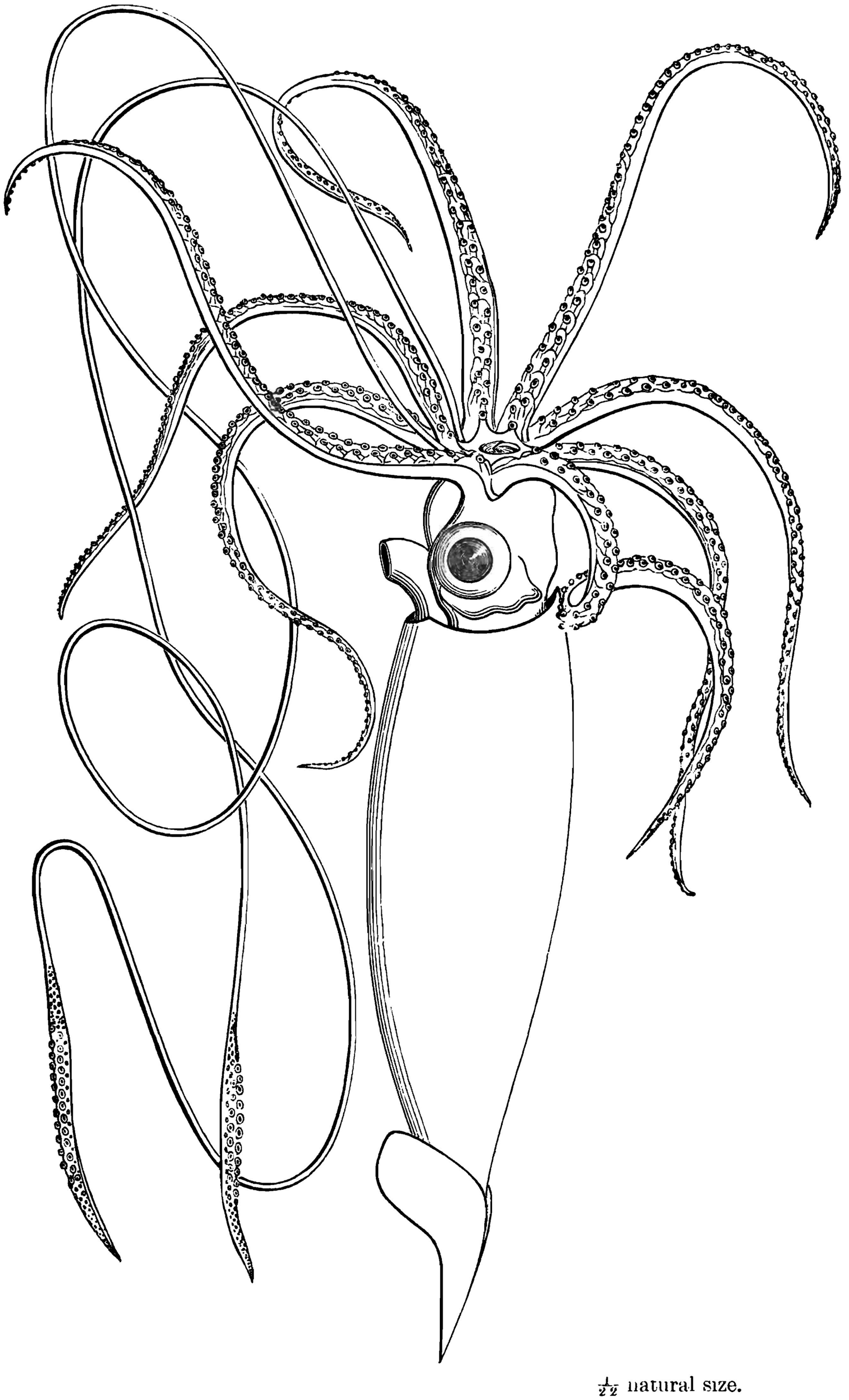

$\frac{1}{22}$ natural size.

Figure 7.3 Verrill's drawing of the giant-sized squid discovered in Logy Bay.

Source: Verrill 1875c, Plate II, Figure 1.

Architeuthis because they consulted Steenstrup about the remains of the squid.[32] Steenstrup was still the most esteemed authority on enormous cephalopods, but he had not published his studies.[33] The only way to acquire knowledge about his inquiries was to approach him with a letter or to meet him. Packard sent him the photograph of the beak of the enormous squid discovered by the crew of *B.D. Haskins*, which Steenstrup identified as *Architeuthis monachus*.[34] Verrill also had correspondence with Steenstrup, and with his assistance, Verrill classified the Newfoundland enormous squid as belonging to *Architeuthis*.[35]

The role of the photographs and well-presented specimens was significant for the malacological study of enormous squid. These research objects made the empirical study of these squid possible. Simultaneously, Verrill advanced the study of them by having different artists draw pictures of them. Later, he also produced models of these animals.[36]

Verrill began to dominate the study of enormous squid in the United States because Packard did not publish articles about them after 1873. Verrill became one of the global authorities concerning the study of cephalopods, but he also investigated many other invertebrates of the Atlantic coast such as annelids and echinoderms. During his life, he published over 350 papers and monographs and described more than 1000 animal species. Verrill was also a professor of zoology in Yale University.[37] Packard was also a known zoologist and worked as a professor of zoology and geology at Brown University. However, he turned his attention mainly to anthropods and insects after a short study of huge squid.[38]

Nevertheless, outside the United States, other naturalists also began to contribute to the study of giant-sized squid. Their efforts seriously impeded the coherent study of these squid, especially by complicating Packard's and Verrill's classification. They proposed entirely different and new genera and an assortment of names for these squid. For instance, Saville-Kent, who became interested in huge squid after he had read Harvey's famous article about the "monster" of Conception Bay in the *American Sportsman* in 1873, wrote three articles in 1874 in which he analyzed their natural history. In these articles, Saville-Kent proposed that these squid should be classified as the genus *Megaloteuthis*, which he had invented himself, and the squid encountered in Conception Bay should be named *Megaloteuthis harveyi*, as a tribute to Moses Harvey.[39] After this, several other naturalists such as Charels Vélain, A. G. More, Richard Owen, Franz Martin Hilgendorf, and Louis Joubin proposed new genera for the enormous squid discovered around the world during the last decades of the nineteenth century.[40]

There were several reasons for the number of names proposed to classify enormous squid. First of all, many of these squid differed slightly from Steenstrup's anatomical description of *Architeuthis*. Thus, there emerged an understanding that different sea regions contained different genera of enormous squid.[41] Second, some of the naturalists mentioned above, such as Saville-Kent, undoubtedly wanted to achieve the honor of naming these massive marine animals.[42] In some cases, such as Saville-Kent's attempt to name the squid discovered in Newfoundland as *Megaloteuthtis*, there occurred a compromise. Thus, the species discovered in Conception Bay was called *Architeuthis harveyi*.[43] Nevertheless, many of the new genera proposed in connection with *Architeuthis*, still defined enormous squid discovered in other parts of the world than the North Atlantic after the turn of the twentieth century.[44]

The enormous squid, discovered in Newfoundland and other parts of the world between the 1870s and 1890s also got other names, which were used in public discussion but also in scientific conversations. These names were important, as they did not follow the rules of the classification, but broadly meant all the enormous squid discovered during the period. Vague terms such as *gigantic cuttlefish*, which was still used for enormous squid during the 1870s, were replaced already in the same decade with the term *devilfish*, familiar from Hugo's book.[45] Zoologists did not, however, use this term, because many of them knew that it originated in Hugo's imagination.[46] For instance, Verrill emphasized in his *The Cephalopods of the North-Eastern Coast of America* (1879) that Hugo's devilfish was a fabulous creature, which did not even derive from the squid but from octopuses.[47] According to OED, the term that finally became general among zoologists and other people was the *giant squid*. This term established its place in English vocabulary at the latest in the 1880s.[48]

As the Figure 7.4 demonstrates, the history of the term *giant squid* is not nearly as old as the history of enormous squid. Since the 1870s, this term has gradually become the overarching term for those squid that are difficult to define under a specific biological name. The giant squid term emerged in the context of the enormous squid witnessed by the crew of *B.D. Haskins* and spread in public discussion, especially to children's magazines.[49] Thereafter, the term *giant squid* gradually established its place in the common language. Even Harvey, who saw enormous squid as the embodiment of *devilfish*, began to use this term in the 1890s.[50] The term also got its foreign counterparts during the last three decades of the nineteenth century, for instance, the French *calmar géant* and the German *Riesenkalmar*.[51]

The naming of the enormous squid discovered in Newfoundland and subsequently in other regions had turned out to be a scientifically challenging task, because the majority of these squid differed remarkably from one another. However,

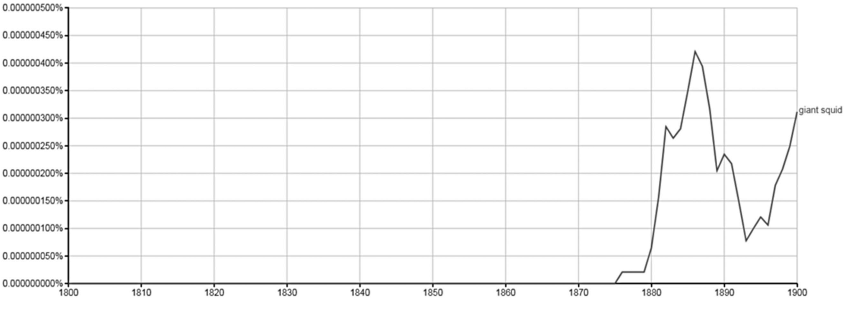


Figure 7.4 This Google Ngram analysis demonstrates that the appearance of the word *giant squid* in the English corpus of the Google database begins with mid-1870s publications.

Source: https://books.google.com/ngrams/.

a convenient collective term for these animals, *giant squid*, had appeared in the same era to mean squid belonging to the genus *Architeuthis.* It still survives in this form today.

The term *giant squid* began to define the group of vaguely classified squid that zoologists were able to identify as sizeable squid without identifying their genus. The discovery of these squid did not make them more understandable, but merely raised new questions about them. For instance, the zoologists could not say anything certain about the growth or the reproduction of these animals.[52] They remained a mystery to contemporary zoologists. This uncertainty and their problematic and vague classification was a key factor enabling their monsterization. Moreover, the vulnerability of the *giant squid* to monsterization undoubtedly increased once zoologists came to understand that octopuses could not reach such large dimensions as the sizable species of squid.

For instance, Verrill wrote in his *The Cephalopods of the North-Eastern Coast of America* (1879) that large octopuses such as the common octopus inhabited the seas, but the numerous accounts of enormous octopuses, "especially among the early writers," were more or less fabulous. He argued that the fragments of cephalopods often referred to as belonging to octopuses most probably belonged to "species allied to *Architeuthis*."[53] Thus, although Packard said in his article published in 1873 that both colossal squid and octopuses lived in the seas,[54] zoologists began to understand squid as the only cephalopod capable of reaching enormous dimensions during the last three decades of the nineteenth century.[55] Even Harvey wrote, in his article published in 1874, that octopuses never measured more than five feet.[56]

The *Manual of Conchology* (1879) by the esteemed American malacologist George Washington Tryon clearly reveals how contemporary zoological study advanced the monsterization of enormous squid during the late nineteenth century. In his book, Tryon explained that the genus of *Architeuthis* resembles so closely *Ommastrephes* and is so vaguely defined that he had to classify the *Architeuthis* that he considered credible as *Ommastrephes,* and all the others as "Gigantic Cephalopods: historical and fabulous." Hence, Tryon, instead of discussing *Architeuthis* among classified cephalopods, explained it as part of the natural history of unidentified enormous cephalopods, containing entities such as Pliny's polypus, Denys de Montfort's octopuses, the squid of Quoy and Gaimard, and *Loligo Bouyeri*, witnessed by the crew of *Alecton*.[57]

Although the enormous cephalopods discovered in Newfoundland and other regions from the 1870s to the 1890s became understood as squid and were mainly classified as *Architeuthis*, they did not become a zoologically distinguished species. The first accurate drawings and photographs of this giant-size squid also appeared during these decades, but the number of unanswered questions regarding them grew simultaneously. One thing regarding these squid, however, was no longer disputed during this period: the only cephalopod able to reach a gigantic size was a squid. All the scientific discussions and analysis led to the situation, in which *Architeuthis* and other genera resembling it occupied a void between classified beings and fables, whereas giant-sized and vicious octopuses gradually receded into the world of fables. Thus, from the 1870s to the 1890s, only the squid, defined with the newly created term *giant squid*, remained to be used to explain mysterious sea creatures and sea monsters. This lack of definition led to the full-scale monsterization of these squid in the zoological discussion, but especially in popular publications.

The monsterization of the giant squid

Whereas the 1860s was the golden age of the monster octopuses, the period from the beginning of the 1870s to the 1890s was to become the golden era for giant-sized monster-squid. During this period, knowledge of enormous squid began to spread, and people discussed them largely as monsters. Rather than attracting occasional notice among cephalopod monsters, as they had in such works as Dom Pernety's, Owen's or Melville's, huge squid, which zoologists attempted to define as *Architeuthis* or the *giant squid*, became the embodiment of all the previous monsters in stories about octopuses and Hugo's *devilfish*. Moreover, their image also incorporated new meanings that increased their monstrousness. This was the period when enormous squid became extensively understood as a sea monster in transatlantic culture.

Previous studies of the giant squid have not paid any particular attention to the monsterization of enormous squid from the 1870s to the 1890s. The reason is probably that as far as these studies were concerned, the late nineteenth century was no different from any other era in that people had understood enormous squid as monsters throughout history.[58] Heuvelmans, for instance, states that this period did not bring anything new but only confirmed what had been known already for decades.[59] Nevertheless, the full-scale monsterization of giant-sized squid did not begin before the three last decades of the nineteenth century. It was during this period that contemporary writers created the concept of *giant squid* as an animal which has inspired many of the famous sea monster stories and spread terror among sailors throughout history.

The monsterization of enormous squid in the final decades of the nineteenth century was based on at least four significant factors. First, the descriptions and images of enormous squid that appeared around the world during this period revealed their structural similarity with the octopuses already perceived as monsters. Second, the *cephalomania* that spread when the first news about enormous squid appeared in newspapers substantially facilitated their monsterization. Third, because methods of disseminating knowledge had improved, descriptions and pictures of enormous monster squid circulated quickly and efficiently throughout the transatlantic world. Fourth, the paradigms prevailing in transatlantic culture, such as enthusiasm for science and the sea, not to mention cephalomania, led to rapid assimilation of the information about monster squid by the public.

One of the most remarkable features that undoubtedly advanced the monsterization of enormous squid from the 1870s to the 1890s was their visual similarity to octopuses.[60] Since the beginning of the nineteenth century, several people had mistaken giant-sized squid for enormous monster octopuses, partly because of the similar outward appearance and partly because they believed that these imaginary octopuses were the only cephalopods that grew enormous.[61] It is hardly surprising in these circumstances that people also transferred the discourses about the octopus monsters to enormous squid. The latter took on the cultural burden that the former had carried during the previous century.

The entanglement of giant-sized squid and giant octopus discourses was also facilitated by the continuing cephalomania in transatlantic culture at the beginning of the 1870s.[62] For instance, various publications discussed the mythical Kraken or the habit of octopus-monsters to devour human flesh when information about the discoveries of enormous squid began to spread.[63] In the 1870s, many already understood cephalopods as monster-like animals when they heard about giant-sized squid.

Also important regarding the monsterization of enormous squid is the efficiency of circulation of knowledge, which had improved from the late eighteenth century and the early nineteenth century.[64] People such as Moses Harvey, who wanted to inform a broader audience about the enormous squid stranded near their homes, had the opportunity to disseminate information and their own interpretations of these animals widely and rapidly. It was no longer professional malacologists alone who could influence the general perceptions of huge squid.

Of course, the successful monsterization of enormous squid demanded that the public accept this image. The paradigms prevailing in the transatlantic culture of the late nineteenth century made people susceptible to it. For instance, the marine zoology and the ocean itself still interested people from the 1860s to the 1890s,[65] as indicated by the massive enthusiasm generated by the *Challenger* expedition, sent to study the world's oceans and their inhabitants from 1872 to 1876.[66] Also, the romantic aspect of the sea was noticeable in various publications, especially those emphasizing the "last days of sail" when steam power displaced sail.[67] Another important discourse that increased public responsiveness to writings about enormous squid was the cephalomania that had extensively and successfully made cephalopods culturally exciting animals.[68] Because of these cultural discourses that prevailed in transatlantic culture during the late nineteenth century, the public of the era eagerly assimilated all kinds of information about enormous squid.

Another ingredient for monsterization of enormous squid existed once the sightings of these animals began to disseminate into public discussion at the beginning of the 1870s. A short article appeared in a Newfoundland local newspaper in 1872 that reflected the perceptions of fishermen: it described the large squid discovered near Bonavista in the same year as a wonderful creature.[69] But after this such publications would be few and far between: from 1870 onwards, the vast majority of published writings, including zoological and popular texts, represented giant-sized squid more or less as monsters.

Moses Harvey and Alpheus Packard were the leading creators of the enormous monster squid image from 1873 to 1875, while Alexander Murray's and Verrill's writings also contributed. All of them described giant-sized squid discovered stranded or floating on the sea as monsters. Nevertheless, they monsterized these squid in varying ways. Harvey and Packard represented these squid as part of the natural history of unidentified and giant-sized cephalopods that the speculations of earlier naturalists had represented as the origin of monster narratives. They also interpreted the body and the agency of these squid as manifesting their monstrosity. Verrill and Murray, however, mentioned the enormous squid discovered off Newfoundland only a few times as a "monster."

Packard and Harvey explained the natural history of previously unidentified giant-sized cephalopods with the newly discovered giant-sized squid. Both of them connected the squid with the octopuses described by Pennant and Denys de Montfort, and they both claimed that enormous squid explained the cephalopod that the crew of *Alecton* encountered near Tenerife, but they put special emphasis on huge squid as the explanation for the mythical Kraken.[70]

Packard, for instance, named the first article, in which he discussed the enormous squid met by the crew of *B.D. Haskins,* "Kraken."[71] Harvey also wrote that the enormous squid discovered in Newfoundland was the same animal that Péron, Quoy and Gaimard, and Rang mentioned in their writings about giant-sized cephalopods.[72] Furthermore, Packard links the enormous squid discovered on the Grand Banks in 1871 with two previous narratives of squid or supposed squid: Steenstrup's story about the sixteenth-century wonder creature, the Sea Monk, which he argued derived from a sighting of squid, and Owen's representation of Banks's squid as a cephalopod monster from the 1830s.[73]

Likewise, Harting, Crosse and Fischer, and various French popularizers of science, discussed the cephalopod encountered by the crew of *Alecton* as the most recent discovery of an unidentified and giant-sized cephalopod, while Packard and Harvey placed the squid found near Newfoundland in the 1870s. So these squid became the most recent representatives of unidentified and enormous cephalopods in contemporary natural history. As these authors contributed to the tradition that had been built up during the previous century of explaining old sightings of cephalopods and ancient sea monster stories, they grouped the enormous squid discovered in Newfoundland with previously uncertain entities. By doing this, Harvey and Packard clearly advanced the understanding of these squid as monsters.

Harvey and Packard went further than simply explaining these unclassified sightings of cephalopods and sea monster stories with the newly discovered enormous squid, as they speculated at length on how, for instance, the mythical Kraken had developed from sightings of giant-sized squid. Like Landrin in the 1860s, Packard and Harvey explain that Norwegian fishermen created the mythical Kraken when they encountered enormous squid.[74] This conclusion might have appeared reasonable to them because in late nineteenth-century discourse it was taken for granted that seafarers were among the most superstitious of people.[75] However, there was no historical evidence for the Harvey-Packard Kraken argument: it merely redefined Denys de Montfort's and Bosc's theory that the Kraken derived from sightings of enormous octopuses, which had no basis either.[76] Seemingly, authors of modern studies of the giant squid have likewise followed this tradition and accepted that the Kraken derives from the sighting of enormous squid.[77]

Another speculative theory emphasized by Harvey and referred by modern studies rests upon an understanding that zoologists have not studied enormous squid before Harvey wrote about them.[78] Harvey came to this conclusion because he thought enormous squid somehow represented the same animals as, for instance, Denys de Montfort's or Victor Hugo's monster octopuses. Scientists had denied the existence of these imaginary creatures and Harvey evidently thought that he had disproved the arguments of early naturalists and proved these creatures to be real. Harvey's speculation, which went further even than that of his contemporaries, furthered the monsterization of enormous squid by clarifying the supposed connection between these squid and sea monster entities. His theory has clearly led more modern studies of the giant squid to assume that naturalists doubted the existence of enormous squid before the late nineteenth century.[79]

In addition to linking the Newfoundland enormous squid with the natural history of yet unidentified cephalopods and sea monster entities, Packard and Harvey advanced the monsterization of these squid in their descriptions of the appearance, body, and agency of huge squid. However, Packard labeled sizeable squid as "slimy monsters" only once, when he referred to Owen's description of Banks's squid.[80] It was Harvey who described the characteristics of the squid discovered in Newfoundland. According to him, enormous squid have a "grotesque appearance," they are glutinous, and their tentacles are "slimy" and "corpse-like" to the touch, further described as "extremely sickening." But these are only a few of the characteristics that Harvey associates with these squid. He mentions that when the fishermen saw the eyes of the squid discovered in Conception Bay, they noticed that "a pair of dark prominent eyes glared at them ferociously, as if with some savage and malignant purpose."[81] The behavior of these squid he describes as full of hatred. According to Harvey, they attack people, devour them if possible and suck their blood.[82]

All the above-mentioned discourses emerged in Harvey's descriptions of the agency and appearance of the squid discovered in Bonavista in 1872 and the two squid that fishermen discovered in Conception Bay and Logy Bay in late 1873. These encounters, especially the one in Conception Bay, inspired Harvey to write thrilling narratives about the battle between humans and enormous squid. The fishermen who had discovered the squid apparently told Harvey that it tried to entwine its tentacles around their boat after they had struck it with a fishing hook.[83] Harvey saw his opportunity to "prove" that these squid were the monsters depicted as octopuses in older tales. His detailed and vivid account of enormous squid and their supposed agency is impressive, given that he witnessed only two giant-sized squid that were dead and had been brought to land in a mutilated condition.[84] His detailed description of the fearfulness of the squid's gaze is pure imagination, as he did not see the eyes while it was alive. Harvey implied that the local fishermen told him all that he wrote, but we know fishermen did not perceive giant-sized squid as monsters, so the depiction of the eyes and the feel of the tentacles is unlikely to have derived from them.[85]

Harvey's discourse of the enormous squid is the same that various writers had used of monster octopuses before him. Our sources indicate that Harvey read extensively.[86] For instance, when he refers to cephalopods' habit of attacking humans, he mentions Thomas Beale's description of the octopus that "assaulted" him on Bonin Island.[87] Harvey obviously drew on numerous publications, the earliest plausibly from the late eighteenth century, to create his image of enormous squid.[88]

He was very keen to monsterize the enormous squid discovered in Newfoundland and could not understand the utilizing perception that local fishermen had of these animals.[89]

Hugo's *Les Travailleurs de la Mer* had a powerful influence on Harvey's way of describing enormous squid.[90] Of all that Harvey read, Victor Hugo's *devilfish* was his biggest inspiration. In fact, Harvey made a comparison between the common squid and the devilfish before he had heard any reports of enormous squid.[91] It is therefore likely that the features of the Newfoundland squid as described by Harvey derive from Hugo's description of the devilfish. For instance, the glutinousness, hatred, blood-sucking and human devouring are all devilfish features. Harvey even named the enormous squid discovered near Newfoundland *Devilfish*.[92] This was a very influential move, because various people used this name to describe enormous squid throughout the late nineteenth century.[93]

In contrast to the above-mentioned stories of monster squid, Murray's and Verrill's contribution to their monsterization was limited. They occasionally used the term "monster" as a synonym for the enormous squid discovered near Newfoundland.[94] In addition, Murray repeated Harvey's story about the giant-sized squid that attacked fishermen in Conception Bay in 1873. These were probably not Murray's own words but Harvey's, as he was the source of the information.[95] In spite of his limited contribution to the monsterization of enormous squid, Verrill's habit of mentioning giant-sized squid with the name "monster" most likely did influence contemporaries. Verrill was in a very influential position among malacologists, so the way he described animals had an impact on the scientific community.[96]

Hence, although it was chiefly Harvey who did the groundwork for understanding enormous squid as monsters from 1872 to 1874, Packard, Murray, and Verrill played their part. The reason that they understood the Newfoundland squid as monsters was clearly its physical resemblance to the enormous octopuses that had dominated stories about monster cephalopods for centuries. All the wild stories and speculation about huge octopuses were inherited by the enormous squid. The narrative about the encounter between enormous squid and fishermen in Conception Bay was an excellent addition to the catalogue of monster cephalopod tales as it substantiated beliefs about the monstrosity of enormous squid that Harvey and Packard already held. We know this from their publications before this occurrence. Moreover, previous scientific classification and analysis of these squid was vague. As noted before, these squid were without any explicit scientific definition until the end of the 1870s. The consequence was that huge squid did not belong among known animals or among fabled entities. As an ill-defined animal, the enormous squid was in a sense a prime target for monsterization in an era when people wanted to read about sea monsters.[97]

The writers mentioned above did the groundwork for turning enormous squid into vicious sea monsters, but that could not happen without efficient circulation and a responsive audience. Both were present in the late nineteenth century, but the different authors made their impact in different ways. For instance, Packard's writings appeared in popular and scientific journals that may have been widely read.[98] Verrill mainly published his texts in scientific journals and presumably these also had their established audience.[99] Evidently, people also read Murray's letter that

Agassiz published in a scientific journal.[100] But it was Harvey who succeeded in creating a transatlantic sensation with his newspaper articles.

Harvey was a prolific writer,[101] but he also possessed extraordinary skills in dissemination of knowledge. The impact of his writings certainly exceeded that of the articles that Packard or Verrill wrote. Harvey was already a correspondent in various American and British newspapers when he wrote the article about the encounter between enormous squid and fishermen in Conception Bay.[102] Not only did he send it to one periodical, but to numerous newspapers. Thus, his story about the monster squid that almost succeeded in sinking a boat and devouring three fishermen appeared almost simultaneously in Boston, Halifax, Montreal, New York, St. John's, and Toronto in November 1873.[103] Only a month later, he informed various newspapers about the December 1873 encounter between fishermen and enormous squid in Logy Bay and wrote several articles in his style that made readers understand enormous squid as monsters. Again, it was not long before his story appeared in North American periodicals.[104] Harvey's stories about the Conception Bay and Logy Bay squid also appeared in the English magazine *The Field*, in December 1873 and January 1874, respectively. In addition to text, Harvey sent the photographs of the tentacle cut from the squid of Conception Bay and the carcass of the squid discovered in Logy Bay to several periodicals.[105] These photos illustrated some of Harvey's published writings.[106]

Harvey's stories soon circulated all over North America and Europe in a variety of newspapers and journals.[107] The influence of Harvey's narratives was so powerful that it created a kind of *post-cephalomania* in transatlantic culture, in which the *devilfish* did not merely mean Hugo's octopus, but became a synonym for enormous squid throughout the last decades of the nineteenth century.[108] Hence, when the term *giant squid* became established as a name for *Architeuthis* from the 1870s to the 1890s, people also used the term *devilfish* to mean the same animal.

The period from the mid-1870s to the 1890s was when the position of enormous squid as terrible and vicious sea monsters established definitively its place in transatlantic culture. This understanding emerged in several ways. First, because of the assumed monstrosity of the squid, numerous collectors and businessmen wanted to acquire "real devilfish" for exhibitions and to advertise them as human-devouring monsters. Second, various writers recontextualized the texts by Harvey, Packard, Murray, and Verril and created false news stories, short stories and other dubious information about enormous squid, in which these animals were invariably represented as monsters or as a paragon for the infamous sea monsters of old tales.

After Harvey's articles had been published on both sides of the Atlantic, he began to receive letters from businesspeople and collectors about the giant-sized squid. Harvey wrote that he had received "letters regarding this extraordinary fish from all quarters and innumerable requests for photographs."[109] The letters mainly included requests for Harvey to send them a photograph of the "devilfish" mentioned in his texts or arrange such a creature for them, but some went further: for instance, the pseudonym G, from Baltimore, wrote to Harvey in June 1874 and asked if he could catch a living "devilfish" for his museum.[110] The letters that Harvey received from Northern America and Europe demonstrate that the dissemination of knowledge about the enormous squid discovered in Conception Bay and

Logy Bay produced a massive public appetite for anything connected to enormous squid found in Newfoundland.

Nevertheless, it was not until 1877 that people started to make money from the enormous squid. Reiche & Brother purchased a carcass of the giant-sized squid found by Newfoundland fishermen in Catalina in that year for the New York Aquarium.[111] The *New-York Daily Tribune* wrote an article about the arrival of the squid in New York, and soon advertisements for the exhibition began to appear in newspapers. The squid was advertised as "The awful man-eating devil-fish; the terror of the ocean."[112] Nevertheless, it seems that the carcass was a disappointment to the aquarium staff. Its body was badly mutilated before it was shipped to New York. Undoubtedly, because of this, the aquarium staff attempted to make the squid correspond to their advertisement artificially. This process becomes clear from Verrill's account. He writes that when he analyzed the squid, he noticed that the carcass had been "repaired." According to him, for instance, two fake eyes, which were red, were installed on the top of its head.[113]

As the numerous requests that Harvey received and the New York Aquarium's marketing of the squid indicate the purpose of the people interested in enormous squid was to exhibit not only a recently discovered species of squid, but also a sensational human-devouring monster. When another enormous squid was discovered in Portugal Cove in 1881, it was shipped to New York and put on display in the Museum of E. M. Worth, but it too was advertised as a monster, not a squid.[114] By 1880, many of the public had clearly adopted the understanding that the large squid was a terrible sea monster. This is also testimony to the success of Harvey's writings, which had played in huge part in how these squid were represented and advertised.

The other form in which enormous squid were manifested as monsters was the works of various authors who recontextualized texts by Harvey, Packard, Murray, and Verril to create new stories about the animals. An especially exciting form these writings took was false news. One of the famous hoaxes in the late nineteenth century was the case of the schooner *Pearl*, which told a story about an enormous squid that submerged the ship in the Indian Ocean.[115] According to the narrative, the crew also included a Newfoundlander named Bill Darling, who mentioned that the creature was an enormous squid. He knew that one should hit the tentacles of these squid with an axe. Despite the crew's resistance, the squid succeeded in sinking the *Pearl.* This news item circulated from one newspaper to another in North America and Europe during the summer of 1874.[116]

The writer of this hoax was inspired by Harvey's articles about the enormous squid of 1873, found in Newfoundland. It is no coincidence that it was a Newfoundlander who knew what kind of creature attacked the schooner and how to deal with it. Harvey commented on this news in one of his newspaper articles in August 1874. He also noticed the similarities between the *Pearl* story and his accounts, and thus declared it a hoax.[117] This false news is an important indication that Harvey's writings had had a significant impact on the public discussion from late 1873 to early 1874.

Various short stories also reveal that the huge Newfoundland squid appeared as a monster to the broader public from the mid-1870s onwards. Stories such as "A Newfoundland Terror" (1896) by Frank Aubrey, "The Home of the Giant Squid"

(1881) by C. F. Holder, and "The Sea Riders" (1896) by H. G. Wells are all excellent examples of the legacy of the authors who had described the enormous squid in the early 1870s, Harvey especially. Aubrey's narrative practically illustrates Harvey's story about the squid encounter in Conception Bay from the perspective of fishermen. In addition to Aubrey, Holder uses many of the same adjectives as Harvey to represent the squid. Genie Babb, who has studied Wells' cephalopod representations, argues that Wells utilized both Verrill's and Harvey's writings when he represented the squid. He explained the anatomical details of the squid with Verrill's texts, whereas the alleged agency of the squid, such as its way to devour human flesh, is undoubtedly borrowed from Harvey's writings. In his story Wells describes a similar scene to that Harvey mentioned as happening in Conception Bay in 1873, when the squid attempted to get its tentacles around the boat.[118]

Like the falsenews and short stories, various informative writings published from the late 1870s to 1890s showed that the enormous squid had established its position as a monster-like animal in the transatlantic imagination during this period. These writings appeared in numerous journals and books in North America and Europe. Many included the discourses that Harvey, Packard, Murray, or Verrill used in one form or another. Several such articles appeared in youth magazines, journals popularizing science and illustrated newspapers.[119] In addition, books popularizing zoology or discussing monsters such as James W. Buel's *Sea and Land* (1887) or John Gibson's *Monsters of the Sea, Legendary and Authentic* (1887) included

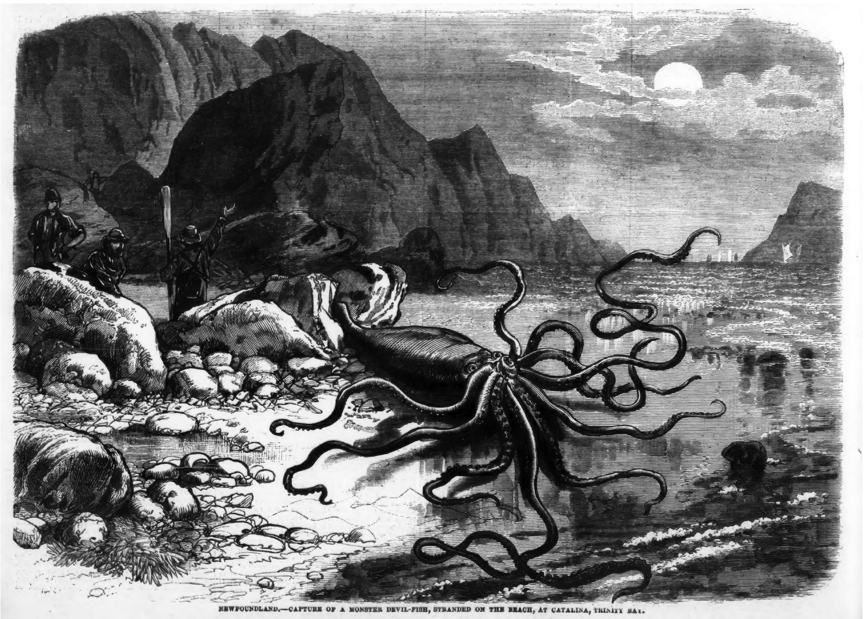
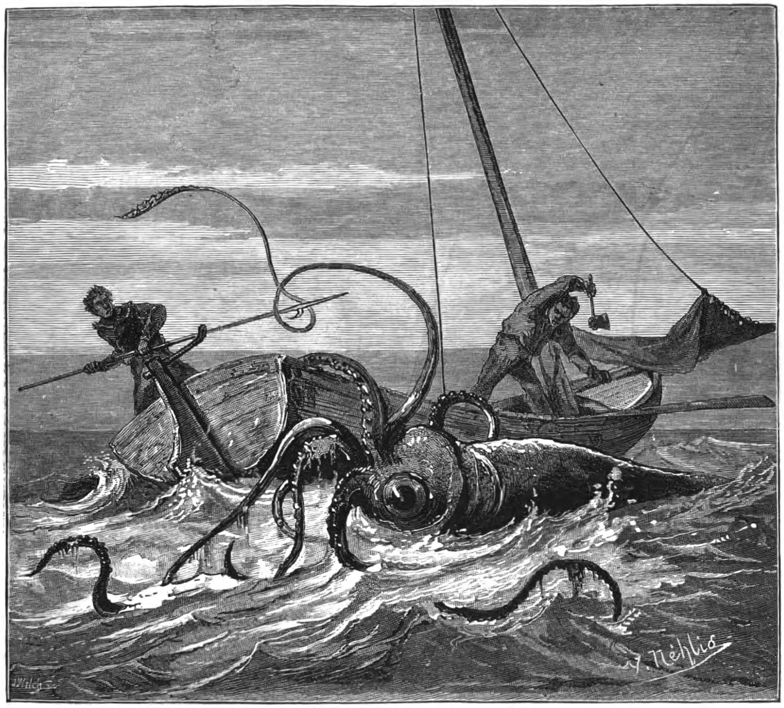

NEWFOUNDLAND.—CAPTURE OF A MONSTER DEVIL-FISH, STRANDED ON THE BEACH, AT CATALINA, TRINITY BAY.

Figure 7.5 The picture attempts to depict the capture of an enormous squid discovered in Catalina in 1877.

Source: "The Great Devil Fish" 1877, 124.



THE FISHERMEN BATTLE WITH THE GIANT SQUID.

Figure 7.6 This picture by Victor Nehling, illustrating Richard Rathbun's writing in the youngsters' magazine *St. Nicholas*, is clearly inspired by Harvey's narrative of the encounter between fishermen and enormous squid in Conception Bay in 1873.

Source: Rathbun 1881, 267.

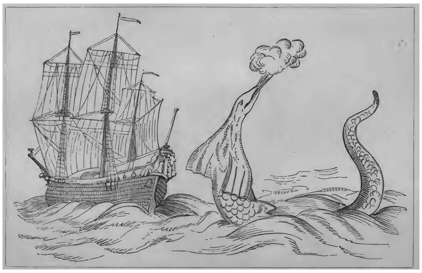
descriptions of enormous squid.[120] All emphasized the monstrosity of these squid, and importantly, they depicted these squid and mentioned that the animal in the drawing was a squid, not an octopus.

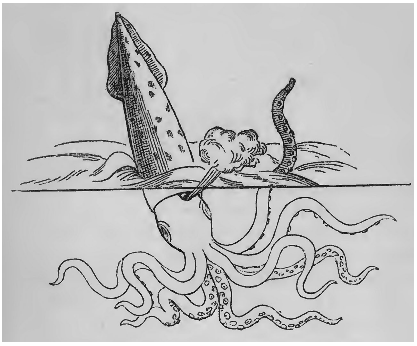
Not only did the above written material disseminate the idea of the monster squid further than ever before, but the images that accompanied them increased the effect of these stories. One work, however, deserves separate mention: Henry Lee's esteemed *Sea Monsters Unmasked* (1883). Lee's work has been exceptionally influential concerning the knowledge about enormous squid, not only during the late nineteenth century but throughout the twentieth century and even today.[121] The reason for this is probably that it is one of the clearest and comprehensive natural histories of enormous cephalopods, which Lee refers to as "Kraken."

In his book, Lee employs speculative methods and, in many ways, continues the work of Harvey and Packard and their predecessors. Remarkably, not only does he explain Kraken and unidentified cephalopod sightings by enormous squid, but he also speculates that the mythical sea serpent derived from sightings of their body parts (see Figures 7.7 and 7.8).[122] The sea serpent was one of the most discussed mysteries of the seas throughout the nineteenth century.

Lee's speculations and the pictures accompanying them succeeded in furthering the monsterization of enormous squid yet more in the 1880s. Ironically Lee's work, which was intended to debunk old myths about renowned sea monsters, merely succeeded in cementing a new myth, the monster enormous squid. Lee did not consider the possibility that sea monsters might have been born as a result of complex cultural and historical phenomena. Lee's work has been one of the most cited publications on the giant squid, which at least partly explains why people regard the giant squid as a mysterious and perhaps dangerous animal even today.[123]

In addition, Lee actively contributed to theories that the various sea monsters stories have been made by sailors and fishermen witnessing enormous squid. For him, Kraken is a story made up by fishermen who were frightened when they saw these squid.[124] This discourse, still noticeable in modern studies of the giant squid, evidently became widely disseminated during the last decades of the nineteenth century.[125]





Figures 7.7 and 7.8 With these illustrations Henry Lee attempted to demonstrate how the sea serpent that Bishop Hans Egede stated he saw in the North Atlantic in 1734 was actually a huge squid.

Source: Lee 1883, 66, 67.

It was during the late nineteenth century that people conceptualized the enormous squid as the *giant squid* and simultaneously began to understand them as mysterious animals whose appearances on the surface of the sea explained numerous previous monster stories. This monsterization spread cumulatively through transatlantic culture as new stories and speculation about the squid multiplied. As a result, the enormous squid, known better as the giant squid from this period onwards, established its place among (in)famous monster animals in transatlantic culture. It became a real animal to public and writers alike, a synonym for "monster" in scientific as well as in popular contexts.

Notes

1 Heuvelmans 1974b [1958], 417–18; Heuvelmans 2006 [1958], 232.

2 See, e.g., Ley 1941; Caillois 1973; Heuvelmans 1974a [1958]; Heuvelmans 1974b [1958]; Muntz 1995; Ellis 1999; Ellis 2006 [1995]; Heuvelmans 2006 [1958]; Babb 2009; Barrère 2014; Salvador & Tomotani 2014; Tiffin 2014; Adamowsky 2015. All the previous modern studies of the giant squid problematically name the huge squid encountered before the term *giant squid* existed "giant squid" As I mentioned in the Introduction, eighteenth- and nineteenth-century people, let alone ancient and Renaissance people, may have understood the size of squid differently than us. Moreover, they had no special term for the species of squid known today as the giant squid. As we have seen, until the late nineteenth century very few people understood the difference between octopus and squid.

3 See, e.g., Rozwadowski 2005.

4 Enormous squid did not appear in the waters near the major European or American cities, but primarily in the remote regions where only fishermen were likely to find them.

5 See, e.g., Robson 1933, 693–95; Aldrich 1967a; Aldrich 1967b; Aldrich 1969. See also Heuvelmans 1974b [1958], 378–81; Ellis 1999, 30, 86, 91; Heuvelmans 2006 [1958], 208–09; Emmer 2010, 89. Steenstrup proposed the idea that currents affected enormous squid and brought them into the surface in his *Spolia Atlantica*, written in the 1850s but published in 1898. See Steenstrup 1898, 412; Steenstrup 1962, 259. See also Earle 1977, 50.

6 For instance, the Danish sea captain Wilhelm Hygom brought various previously unknown marine animals, including the carcass of enormous squid, to Steenstrup in the 1850s. See Steenstrup 1898, 412; Steenstrup 1962, 259–60. See also Spräck 1962.

7 See, e.g., Lightman 2012.

8 See, e.g., Rozwadowski 2005.

9 See Babb 2009.

10 See, e.g., Heuvelmans 1974b [1958], 359–96; Earle 1977, 55–90; Muntz 1995, 22–23; Ellis 1999, 81–87; Babb 2009, 26; Heuvelmans 2006 [1958], 197–218; Barrère 2014, 141–66. See also Hynes 2012, 1–28; Frank 2014.

11 See Murray 1874.

12 Dodd, Tarr & Co. was a wholesale dealer in dry and pickled fish located in Gloucester. James G. Tarr directed the company together with Andrew Dodd. In the 1870s, the company had grown to the point that they owned 13 shipping vessels. CAM A0^{6}

13 Packard 1872, 187–88; Packard 1873, 91–93.

14 See Verrill 1879, 183–84. *The Morning Chronicle* also published Bennett's letter. See *The Morning Chronicle* 13.3.1873.

15 The numerous newspaper articles by Harvey indicate that Newfoundlanders mainly perceived enormous squid as utility objects. See e.g., *The Globe* 9.11.1874; *The Globe* 19.4.1875; *The Globe* 8.6.1875*; The Morning Chronicle* 3.7.1875; *The Globe*

15.12.1877; *The Globe* 8.2.1879; *The Morning Chronicle* 11.3.1879; *Montreal Gazette* 28.11.1881; *Montreal Gazette* 25.11.1886; *Montreal Gazette* 19.9.1889; *Montreal Gazette* 8.1.1891. See also Verril 1879, 181.

16 See Hughes 1982.

17 See, e.g. MG339, PANL; COLL-041, ASC; *The Citizen* 5.10.1870; *The Citizen* 22.10.1872; Montreal Gazette 5.11.1872; *The World* 11.11.1873; *The Citizen* 15.11.1873; *The Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873; *Harbor Grace Standard* 29.11.1873; *The Citizen* 2.12.1873; *Montreal Gazette* 5.12.1873; *The Morning Chronicle* 6.12.1873; *The Globe* 10.12.1873.

18 *The Montreal Gazette* 26.11.1873.

19 Murray wrote a detailed description of the occurrence to his friend and colleague Professor Jules Marcou, for whom Murray asked to deliver the message about the occasion to Louis Agassiz. Murray 1874, 161.

20 In addition to some naturalists, Harvey sent the photograph of the tentacle to some newspapers and periodicals. According to Harvey's own writings, the photograph of the tentacle appeared first in the British journal *The Field*, in which it accompanied Harvey's descriptions of the struggle between fishermen and an enormous squid in Conception Bay in 1873. *The Field* in which the photo and the story appeared was issued in December 13, 1873. See *Montreal Gazette* 20.1.1874; *The Globe* 3.2.1874. After this article, Harvey's photo of the tentacle appeared, for instance, in the British journal *The Annals and Magazine of Natural History* in January 1874. See Harvey 1874a. See also Verrill 1879, 178, 182.

21 Packard 1873, 91–93.

22 See Steenstrup 1855a; Steenstrup 1855b; Steenstrup 1857; Stenstrup 1898; Steenstrup 1962; Harting 1861.

23 Verrill 1879, 184.

24 See, e.g., *The Globe* 10.12.1873; *The Citizen* 6.1.1874; *Montreal Gazette* 9.1.1874; *Daily Evening Traveller* 9.1.1874; *Montreal Gazette* 20.1.1874; *The Globe* 3.2.1874.

25 Verrill 1874b, 167.

26 Verrill 1874a, 159–60.

27 See, e.g., Blondheim 1994; Fang 1997, 51–56; Williams 2009, 99–124; Collier & Connoly 2016.

28 The body of a squid is fragile and will putrefy fast outside water. See e.g., Hanlon 1990; Summers 1990, 11. See also historical sources such as *The Morning Chronicle* 13.3.1873. On the influence of photography in the late nineteenth-century science, see Daston & Galison 2010, 115–90; Tucker 2013; Barrère 2014.

29 See, e.g. Packard 1873, 92–94; Verrill 1874b, 168; Verrill 1875a, 23–24; Verrill 1875b, 79; Verrill 1875c, 124, 178; Verrill 1879, 184–85, 198–200, 208–209. As Verrill mentions in one of his letters to the state fish commissioner T. B. Ferguson, he had worked with the invertebrate collections made in countries in northern waters by the Fish Comission, to identify, label, catalogue, and report them since 1871. Record Unit 189, Box 136, Folder 10, SIA.

30 Steenstrup and Harting had previously made only some drawings of the body pieces of enormous squid. See Harting 1861; Steenstrup 1898. In addition to Steenstrup's and Harting's drawings, Eugene Rodolpe had made a sketch of the squid witnessed by the crew of *Alecton*, which was not, however, a facsimile based on any accurate observation. See e.g., Bouyer 1862. See also Moquin-Tandon 1865, 414–15.

31 See, e.g. Verrill 1785a; Verrill 1879, 184–86.

32 Packard 1873, 92; Verrill 1879, 177, 198–99.

33 It becomes clear from the papers by Packard and Verrill that they regarded Steenstrup as the expert on the study of enormous squid. See e.g., Packard 1873, 92–94; Verrill 1879, 238–40. Verrill even mentions in his *The Cephalopods of the North-Eastern Coast of America* (1879) that "the publication of Professor Steenstrup's detailed

memoir upon this genus would give great pleasure and satisfaction to all students of this class of animals" Verrill 1879, 240.

34 Packard 1873, 92. See also Ellis 1999, 71.

35 Verrill 1879, 198–99, 240. See also Ellis 1999, 71.

36 Richard Ellis wrote in his article "The Models of Architeuthis" that Verrill was responsible for the first models of these squid in 1882. Verrill oversaw the models and a self-trained artist and entomologist James Henry Emerton constructed them. See Ellis 1997.

37 See Verrill 1874a; Verrill 1874b; Verrill 1875a; Verrill 1875b; Verrill 1875c; Verrill 1875d; Verrill 1876; Verrill 1877; Verrill 1879; Verrill 1880–1881; Verrill 1882a; Verrill 1882b. See also SIA; YPMN; Coe 1932; Verrill 1958.

38 See, e.g. Mead 1918; Cockerell 1920.

39 See Saville-Kent 1874a; Saville-Kent 1874b; Saville-Kent 1874c.

40 Charles Vélain proposed in 1877 that the giant-sized squid he had encountered in the Saint-Paul Island in 1874, should be classified as *Mouchezis Sancti-Pauli*. The name *Mouchezi* derives from the name of the commandant of the St. Pauli expedition, Ernest Amédée Barthélemy Mouchez. Moreover, the British naturalist A. G. More, who discovered a document about the sighting of enormous squid in western Ireland in the late seventeenth century, proposed that this squid should be called *Dinoteuthis Proboscideus* in his article of 1875. During the 1880s, Owen devised an entirely new genus of enormous squid, *Plectoteuthis*, and the New Zealand naturalist T. W. Kirk proposed the genera *Steenstrupia* for the giant-sized squid discovered in New Zealand. In addition, the German zoologist Franz Martin Hilgendorf named the enormous squid he had seen in Japan *Megateuthis martnesii*. In the 1890s, the French naturalist Louis Joubin decided that the remains of the enormous squid discovered in the stomach of a sperm whale in the Azores in 1875 belonged to a new genus of enormous squid, *Dubioteuthis physeteris*. The marine biologist Adolf Appellöf, however, proposed that it should be called *Architeuthis physeter* in 1902. See More 1875a; Vélain 1877, 82–83; Hilgendorf 1880; Owen 1880, 156–68; Kirk 1882, 286; Joubin 1900, 102. See also Appellöf 1902, 183–84; Heuvelmans 1974b [1958], 367–95; Ellis 1999, 72–73; Heuvelmans 2006 [1958], 202–18.

41 For instance, Charles Vélain had proposed the name *Architeuthis mouchezi* for the squid he found on Saint-Paul Island in 1875. Nevertheless, in 1877, he changed his mind, as he interpreted its structure as too different from Steenstrup's descriptions of *Architeuthis*. Vélain 1875, 1002; Vélain 1877, 82–83. See also Ellis 1999, 72.

42 In his articles, Saville-Kent problematically compares Steenstrup's studies about enormous squid and the already famous story about the encounter between the giant-sized squid and the crew of *Alecton* and states that in both these cases the squid were classified, although there is no material evidence of them. Hence, he implied that Steenstrup's genera *Architeuthis* is just as questionable a classification as *Loligo Bouyeri*, which Crosse and Fischer, without any evidence, had concluded was the nomenclature of the squid met by the crew of *Alecton*. I argue that Saville-Kent's argument is understandable because Steenstrup had published nothing about his discoveries concerning the enormous squid. Nevertheless, as Heuvelmans says, Saville-Kent also wanted to contribute to the classification of these animals, because he proposed that the genera of these squid should be *Megaloteuthis*, and the species of the squid encountered in Conception Bay should be named *Megaloteuthis Harveyi*. Saville-Kent's arguments and the proposals for the classification of the enormous squid discovered in Newfoundland waters caused a dispute between him and Verrill. Verrill was aware of Steenstrup's work and saw that Saville-Kent's article included errors, hence he supported the use of *Architeuthis* to classify the giant-sized squid. Finally, Verrill won this debate and *Architeuthis* established its place as the nomenclature for the enormous squid discovered in Newfoundland. Saville-Kent 1874a; Saville-Kent 1874c; Verrill 1875a, 25–26;

Verrill 1875c, 125; Verrill 1879, 198–99. See also Heuvelmans 1974b [1958], 367–69; Heuvelmans 2006 [1958], 202–03.

43 See Verrill 1879, 197–210.

44 Already during the first decades of the twentieth century, the German malacologist Georg Johan Pfeffer proposed that all these different genera of enormous squid should be classified under the family *Architeuthidae* and in the genus *Architeuthis*. Pfeffer 1912, 1–38. See also Robson 1933, 681–82; Heuvelmans 1974b [1958], 395–96; Ellis 1999, 70–72; Heuvelmans 2006 [1958], 218. Despite Pfeffer's argument, as Ellis mentions in his *The Search for the Giant Squid* (1999), the classification of *Architeuthis* was still quite muddled in the 1990s. Ellis 1999, 74–75. It was not until 2012 that the group of biologists, by characterizing the mitochondrial genome diversity of 43 *Architeuthis*, concluded that there is only one global species of *Architeuthis*, which is *Architeuthis dux*. See Winkelmann et al. 2012.

45 The spread of the term *devilfish* to mean the enormous squid discovered in the 1870s, was mainly a result of Harvey's writings about these animals, which had a phenomenal influence on the contemporary public discussion. The next section focuses on Harvey's impact on the broader transatlantic understanding of these squid.

46 Various naturalists tried to rationalize the discussion about Hugo's devilfish in the late 1860s and the 1870s, and show that the imaginary devilfish was not the octopus. Nevertheless, Hugo's descriptions maintained their position as an influential source of information about octopuses throughout the late nineteenth century. See Crosse 1866; Troschel 1867; Lee 1875.

47 Verrill 1879, 177.

48 According to the Oxford English Dictionary, Packard used the term *Giant squid* for the first time in his article "The Kraken" published in 1872. See "giant, n. and adj." OED Online. June 2018. Oxford University Press. http://www.oed.com/view/Entry/78089?rskey=T4j2vU&result=1 (accessed June 14, 2018). Nevertheless, the newspaper sources indicate that Packard adopted the word from Tarr's article, published in the *Cape Ann Advertiser* in December 1871. See *Cape Ann Advertiser* 22.12.1871; Packard 1872, 188. As Graph 1 demonstrates, the term did not become general until ten years after this news and Packard's article.

49 James G. Tarr and Packard were the first to use this term in published journals. After this, the term *giant squid* gradually became general. It began to appear especially in various writings directed to youngsters. See e.g., Rathbun 1881; Holder 1881.

50 See *The Montreal Gazette* 8.1.1891.

51 Both of these terms appeared already in the 1860s, but they were then merely synonyms for enormous squid. I argue that these terms began to mean enormous squid explicitly only after the knowledge about the giant-sized squid discovered in Newfoundland transformed the understanding of sizeable cephalopods. See, e.g. La Blanchère 1874; Keller 1895, 389; See also Ellis 1999, 74–75.

52 Pfeffer wrote in his comprehensive study of *Architeuthidae*, published in 1912, that the hectocotylus of these squid is unknown. Likewise, he could say nothing about the changes these squid go through when they grow. Pfeffer 1912, 1. Jereb and Roper stated in 2010 that *Architeuthis* are still insufficiently described and poorly understood. Jereb & Roper 2010, 121.

53 Verrill 1879, 252–53.

54 Packard 1873, 94.

55 See, e.g., Verrill 1879, 253.

56 Harvey 1874b, 197–98.

57 Tryon 1879, 74–91, 183.

58 Writers of numerous books and inquiries about the giant squid understand large squid as animals that have evoked terror in people since antiquity. Without questioning this assumption, they interpret the discussion of the giant squid as monster in the period

from the 1870s to the 1890s as nothing out of the ordinary. See Heuvelmans 1974b [1958], 359–96; Ellis 1999, 80–93; Heuvelmans 2006 [1958], 197–218.

59 Heuvelmans 1974b [1958], 360; Heuvelmans 2006 [1958], 197.

60 As noted earlier, humans explain animals that are new to them by reference to known animals that resemble them. See Maran 2015, 470.

61 For instance, Péron had difficulties when he saw enormous squid near Tasmania in 1802, because he had learned to understand sizeable cephalopods as octopuses. Similarly, Rang interpreted the giant-sized squid he sighted in the mid-Atlantic Ocean in the early nineteenth century as an octopus. He did not understand that it was not octopuses that could grow enormous, but squid. See Péron 1807, 216; Rang 1829, 86.

62 The beginning of the 1870s was in fact the golden age of cephalomania, in large part because public aquariums began to exhibit octopuses during this period. See Lee 1875, 7–11. See also Brunner 2005, 58, 99–120. The enthusiasm toward octopuses, like Hugo's devilfish at the beginning of the 1870s, is well-represented in contemporary newspapers. See e.g., *Providence Evening Press* 22.7.1870; *Daily Evening Bulletin* 26.7.1870; *The Observer* 3.12.1871; *Commercial Advertiser* 9.12.1871; *The New York Times* 10.12.1871; *Daily State Gazette* 12.2.1872; *Daily News* 27.3.1873; *The New York Times* 25.5.1873; *Albany Argus* 9.6.1873; *Evening Bulletin* 10.10.1873; *Portland Daily Press* 21.10.1873; *L'Univers illustré* 3.1.1874; *The Manchester Guardian* 15.9.1874. In addition to these news items, contemporaries used the concept of *Devilfish* as an indicator of monstrousness among marine animals. For instance, *The New York Tribune* compared a crab weighing about 40 pounds that was found in Yokohama Bay to Hugo's devilfish in their news story issued in August 1870. *The New York Tribune* 4.8.1870.

63 Especially the translations of French books that popularized knowledge of sea animals and sea monsters and which appeared in English. See e.g., Mangin 1868b; Moquin-Tandon 1869; Landrin 1875. Packard, for example, refers to Moquin-Tandon's *The World of the Sea* (1869) when he writes about the enormous squid witnessed by the crew of *B.D. Haskins*. Packard 1873, 88.

64 See e.g., Blondheim 1994; Fang 1997, 51–56; Williams 2009, 99–124; Collier & Connoly 2016.

65 See Rozwadowski 2005; Adamowsky 2015.

66 See Rozwadowski 2005; Koslow 2007, 23–39; Adamowsky 2015, 58–61.

67 See, e.g., Rozwadowski 2005, 21.

68 Babb 2009, 20–24.

69 *The Morning Chronicle* 11.10.1872.

70 Packard, 1872, 188; Packard 1873, 87; Harvey 1874b, 198–99; *The Citizen* 1.6.1874; *Montreal Gazette* 9.1.1874; *The Royal Gazette* 10.2.1874. Harvey mentioned that he read Denys de Montfort's description of enormous cephalopods from George Shaw's book. He continued to refer on Denys de Montfort's descriptions of cephalopod monsters throughout the late nineteenth century. See e.g., *The Globe* 15.12.1877. Harvey discussed Kraken first as a "real creature." Nevertheless, the head of the Natural History Society of Montreal, Sir John William Dawson, mentioned in his published letter about Harvey's writings that "The Kraken, of Scandinavian superstition, is an exaggerated representation of one of these colossal cuttles." Thereafter, Harvey began to describe Kraken as "an exaggerated representation of colossal cuttle-fishes" For Dawson's comment, see *The Morning Chronicle* 6.12.1873.

71 Packard undoubtedly adopted the understanding that Kraken is a squid from the French treatises that popularized science. He refers to Moquin-Tandon's work in his article written in 1873. Packard 1872; Packard 1873, 87.

72 Harvey 1874b, 199–200; Harvey also confused the enormous squid, found near waters of Newfoundland, with the cephalopod monster mentioned in Pliny's *Naturalis*

Historia and with Olaus Magnus's sea monsters (later in the 1870s). See *The Globe* 15.12.1877; *The Morning Chronicle* 11.3.1879.

73 Packard 1873, 87–88.

74 Packard 1872; Packard 1873, 87; Harvey 1874b, 198. Harvey emphasized the connection between Kraken and enormous squid throughout the late nineteenth century. See e.g., *The Globe* 8.2.1879; *Montreal Gazette* 28.11.1881.

75 In the late nineteenth century, there appeared various publications emphasizing the superstitious character of seafarers. For instance, William F. S. Jones *The Broad, Broad Ocean and some of Its Inhabitants* (1871) includes a section named as "Seamen naturally superstitious". Jones 1871, 231–47. See also Weibust 1969; Latva 2014.

76 Bosc 1801, 36; Denys de Montfort 1801–02, 386–412. As stated earlier, Landrin also contributed to this speculation in his *Monstres marins* (1867). See Landrin 1867, 52; Landrin 1870, 45; Landrin 1875, 62.

77 See, e.g. Robson 1933, 681; Steinbach 1951; Aldrich 1969; Cohen 1970, 27–29; Heuvelmans 1974a [1958], 54–55, 220–51; Heuvelmans 1974b [1958], 279, 327, 366, 384, 417; Earle 1977, 16, 22; Muntz 1995, 6–11; Andriano 1999, 15; Ellis 1999, 2, 17, 60; Guerra et al. 2004, 2; Ellis 2006 [1995], 113–64; Heuvelmans 2006 [1958], 23–24, 115–31, 144, 176, 201, 211, 232; Martin 2009, 10–11; Emmer 2010; Hatcher & Battey 2011, 43–45; Williams 2011; Winkelmann et al. 2013, 2; Tiffin 2014, 152–53.

78 Harvey 1874b, 198. In the late 1870s, Harvey began to emphasize the understanding that zoologists had denied the existence of enormous squid before fishermen had discovered them in the Newfoundland waters. From 1879 onwards, Harvey explained that he had proved the existence of these squid. For instance, he writes in the *Montreal Gazette* in December 29, 1879: "there is a wonderful interest among scientists regarding these extraordinary creatures, which were believed to be mythical till 1873, when I had the good fortune to obtain possession of the first specimen, which I described in various periodicals and had photographed." *Montreal Gazette* 29.12.1879. See also *The Globe* 10.3.1877; *The Globe* 8.2.1879.

79 Heuvelmans 1974b [1958], 338–40; Muntz 1995, 1; Heuvelmans 2006 [1958], 182–83; Adamowsky 2015, 90–91.

80 Packard, 1873, 88.

81 *The Morning Chronicle* 21.11.1873.

82 See, e.g. *Montreal Gazette* 5.11.1872; *World* 11.11.1873; *The Citizen* 15.11.1873; *The Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873; *Harbor Grace Standard* 29.11.1873; *The Citizen* 2.12.1873; *Daily Evening Traveller* 4.12.1873; *Montreal Gazette* 5.12.1873; *The Royal Gazette* 9.12.1873; *The Globe* 10.12.1873; *The Globe* 9.10.1877; *The Morning Chronicle* 11.3.1879; *Montreal Gazette* 28.11.1881; *Montreal Gazette* 25.11.1886. See also Harvey 1874b, 201–03; Harvey 1899a.

83 See, e.g. *World* 11.11.1873; *The Citizen* 15.11.1873; *The Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873; *Harbor Grace Standard* 29.11.1873; *The Citizen* 2.12.1873; *Daily Evening Traveller* 4.12.1873; *Montreal Gazette* 5.12.1873. See also Harvey 1874b, 201–03; Harvey 1899a.

84 See, e.g, *World* 11.11.1873; *The Citizen* 15.11.1873; *The Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873; *Harbor Grace Standard* 29.11.1873; *The Citizen* 2.12.1873; *Daily Evening Traveller* 4.12.1873; *Montreal Gazette* 5.12.1873; *The Royal Gazette* 9.12.1873; *The Globe* 10.12.1873; *The Globe* 20.12.1873; *The Citizen* 6.1.1874; *Montreal Gazette* 9.1.1874; *Daily Evening Traveller* 9.1.1874; *Montreal Gazette* 20.1.1874; *The Globe* 3.2.1874; *Montreal Gazette* 17.10.1877. See also Harvey 1874b; 1899a.

85 Harvey continued to describe the horridness that the eyes of enormous squid evoked in people, encountering these animals, throughout the late nineteenth century, although he never witnessed eyes of such living squid. As he mentioned himself, the fishermen

who discovered the squid from Logy Bay destroyed its eyes. See e.g., *The Citizen* 6.1.1874.

86 See Wokey, Wayne. *The Rev. Moses Harvey* (Winter 1972), CNS; Earle 1977, 55–64.

87 Harvey 1874b, 199.

88 When Harvey mentioned Pennant's descriptions of octopuses, he may have been referring to Pennant's original work, published in 1777. Nevertheless, Harvey explicitly mentioned that he read George Shaw's book about octopuses. Of Shaw's books, only one discusses Denys de Montfort's theories about octopuses, the *Zoological Lectures Delivered at the Royal Institution in the Years 1806 and 1807* (1809). Apparently, Harvey read this treatise. See *The Globe* 15.12.1877.

89 Several of Harvey's newspaper articles reveal that he could not understand the habit of local fishermen to use enormous squid, which he saw precious objects of science. See e.g., *Globe* 9.11.1874; *Globe* 19.4.1875; *Globe* 8.6.1875; *The Morning Chronicle* 3.7.1875; *Globe* 15.12.1877; *Globe* 8.2.1879; *The Morning Chronicle* 11.3.1879; *Montreal Gazette* 28.11.1881; *Montreal Gazette* 25.11.1886; *Montreal Gazette* 8.1.1891.

90 Harvey was a fanatical Victor Hugo enthusiast, as revealed in his scrapbooks. See MG339, PANL; COLL-041, ASC. This admiration is also noticeable in Harvey's numerous newspaper articles. See e.g., *The Citizen* 5.10.1870; *The Citizen* 22.10.1872; Montreal Gazette 5.11.1872; *The World* 11.11.1873; *The Citizen* 15.11.1873; *The Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873; *Harbor Grace Standard* 29.11.1873; *The Citizen* 2.12.1873; *Montreal Gazette* 5.12.1873; *The Morning Chronicle* 6.12.1873; *The Globe* 10.12.1873.

91 *The Citizen* 5.10.1870.

92 See e.g., *The Citizen* 22.10.1872; *Montreal Gazette* 5.11.1872; *World* 11.11.1873; *The Citizen* 15.11.1873; *The Morning Chronicle* 21.11.1873; *The Globe* 22.11.1873; *Harbor Grace Standard* 29.11.1873; *The Citizen* 2.12.1873; *Daily Evening Traveller* 4.12.1873; *Montreal Gazette* 5.12.1873; *The Morning Chronicle* 6.12.1873; *The Royal Gazette* 9.12.1873; *The Globe* 10.12.1873; *The Globe* 9.10.1877; *The Morning Chronicle* 11.3.1879; *Montreal Gazette* 28.11.1881; *Montreal Gazette* 25.11.1886. See also Harvey 1874b, 201–03; Harvey 1899a.

93 The use of the term *devilfish* for enormous squid discovered during the late nineteenth century, came about because of the influence of Harvey's writings. I suggest that this was, in addition to the contemporary cephalomania, due to the various media that copied Harvey's articles. See e.g., *New York Times* 8.12.1873; *The Indianapolis* Sentinel 17.12.1873; *The Plain Dealer* 23.12.1873; *Cincinatti Daily Gazette* 25.12.1873; *Centinel of Freedom* 10.2.1874; *Georgia Weekly Telegraph* 10.2.1874; *The New Hampshire Patriot 25.3.1874; Daily State Gazette* 1.10.1874; *Washington Review and Examiner* 21.10.1874; *The Inter* Ocean 12.6.1875; *The Philadephia Inquirer* 9.10.1877. Despite this, the term *devilfish* was still used to mean other marine animals such as octopuses and mantas. See e.g., Damon 1879.

94 See e.g., Murray 1874; Verrill 1874a, 158; Verrill 1875a, 21; Verrill 1875c, 123; Verrill 1879, 177, 187.

95 Writings by Murray and Harvey imply that Harvey told the story of Conception Bay to Murray. Thus, Murray never heard the story from the fishermen who saw the squid. See e.g., *The Morning Chronicle* 6.12.1873; Murray 1874; Harvey 1874b.

96 See Coe 1932.

97 On the monsterization of entities that did not belong among classified creatures or known fabled beings, see Foucault 2002 [1966], xvi.

98 See Packard 1872; Packard 1873.

99 See Verrill 1874a; Verrill 1874b; Verrill 1875a; Verrill 1875b; Verrill 1875c; Verrill 1879; Verrill 1880–1881.

100 See Murray 1874.

101 See, e.g., See Wokey, Wayne. *The Rev. Moses Harvey* (Winter 1972), CNS; Earle 1977, 59–63.

102 See, e.g., Earle 1977, 59.

103 It is interesting that the news about the encounter between enormous squid and fishermen in Conception Bay appeared earlier in newspapers in New York and Halifax than in St. John's. I suggest that Harvey intentionally chose to inform the New York newspaper *The World* first, because he anticipated that his news about enormous squid would gather more attention in such big cities.

104 *The Citizen* 2.12.1873; *Montreal Gazette* 5.12.1873; *The Morning Chronicle* 6.12.1873; *The Globe* 10.12.1873; *The Globe* 20.12.1873; *The World* 23.12.1873.

105 Harvey asked the local photographers Parsons and McKenny to take photos of the tentacle and the carcass and posted these photos in various journals and newspapers, as well sending them as to zoologists and administrators. See e.g., *The Morning Chronicle* 6.12.1873; Harvey 1874b, 202–03, 206; About the photographers, see Murphy 2003 [1994].

106 According to Harvey, the photograph of the tentacle appeared first in the British journal *The Field*, in which it accompanied Harvey's descriptions about the struggle between fishermen and enormous squid in Conception Bay. The issue of *The Field* in which the photo and the story were published appeared in December 13, 1873. See *Montreal Gazette* 20.1.1874; *The Globe* 3.2.1874. After this article, Harvey's photo of the tentacle appeared, for instance, in the British journal *The Annals and Magazine of Natural History* in January 1874. See Harvey 1874a. See also Verrill 1879, 178, 182.

107 In North America, the news began to spread from New York, where *The World* published the first of Harvey's articles about the enormous squid of Conception Bay. See e.g., *The World* 11.11.1873; *Albany Argus* 11.11.1873; *Little Rock Daily Republican* 25.11.1873; *The Annapolis Gazette* 2.12.1873; *The New York Tribune* 6.12.1873; *New York Times* 8.12.1873. In December 1873, Harvey's news about the squid found in Logy Bay also began to spread in North American newspapers. See e.g., *The Indianapolis Sentinel* 17.12.1873; *Kingston Daily Freeman* 23.12.1873; *The Plain Dealer* 23.12.1873; *Cincinnati Daily Gazette* 25.12.1873; *Albany Evening Journal* 25.12.1873; *Centinel of Freedom* 10.2.1874; *Georgia Weekly Telegraph* 10.2.1874. In Europe, Harvey's writings about "monster squid" began to spread in December 1873. In addition to Harvey's article in *The Field*, various English newspapers published copies or a compilation of Harvey's texts. See e.g., *The Pall Mall Gazette* 11.12.1873; *The Central Press* 13.12.1873; *The Newcastle Courant* 19.12.1873; *The London Week News* 20.12.1873; The *Tamworth Herald* 20.12.1873; *The Belfast News-Letter* 25.12.1873. News about the giant-sized squid discovered in Newfoundland also appeared in French and German newspapers. See e.g., *La Presse* 23.12.1873; *Le Siècle* 26.12.1873; *La Presse* 5.1.1874; *Das Ausland* 4.5.1874. See also La Blanchére 1874. Harvey was aware of the dissemination of his writings. He believed that his writings would reach Russia and China. Harvey writes: "The fame of the Newfoundland Devil Fish has travelled far and wide, and made [a] deep impression on the popular imagination. On the wings of the press, it had probably by this time reached Russia, whence it may be expected to pass to China." *The Citizen* 14.7.1874. Interestingly, Harvey's writing about the enormous squid discovered in Bonavista Bay in 1782 also circulated in American press. See e.g., *Evening Post* 7.11.1872; *Norwich Aurora* 20.11.1872; *Albany Argus* 26.11.1872; *Evening Bulletin* 14.12.1872. For Harvey's original writings copied in these American newspapers, see *The Citizen* 22.10.1872; *Montreal Gazette* 5.11.1872.

108 Numerous newspapers that copied Harvey's writings about the giant-sized squid discovered in Newfoundland, adopted Harvey's habit of calling these squid *devilfish* or *the real devilfish*. Many of these newspapers also reported such news with headlines

like "A Devil Fish Caught". See e.g., *The Annapolis Gazette* 2.12.1873; *The Indianapolis Sentinel* 17.12.1873; *Albany Evening Journal* 25.12.1873; *Cincinnati Daily Gazette* 25.12.1873; *The Centinel of Freedom* 10.2.1874; *The New Hampshire Patriot* 25.3.1874; *The New York Times* 7.10.1877; *The New York Tribune* 8.10.1877; *The Philadelphia Inquirer* 9.10.1877; *The New York Tribune* 15.10.1877; *The Galveston Weekly News* 15.10.1877; *Territorial Enterprise* 17.10.1877; *Evening Bulletin* 19.10.1877; *The Daily Inter Ocean* 29.11.1881·

109 *The Citizen* 14.7.1874·

110 *The Citizen* 14.7.1874; *The Montreal Gazette* 18.7.1874. The British popular writer and collector Frank Buckland was also among the people, who wrote to Harvey. He asked Harvey to send him a giant-sized squid. As this mission appeared to be impossible, Buckland, according to Richard Ellis, built the first ever model of enormous squid. See *The Times* 14.9.1874; Ellis 1999, 214, 220·

111 See e.g., *The New York Times* 9.10.1877; *Montreal Gazette* 17.10.1877; Dorner 1877, 67–69. See also Heuvelmans 1974b [1958], 372–73; Ellis 1999, 88, 214–16; Heuvelmans 2006 [1958], 205.

112 See *The New York Tribune* 23.10,1877. See also *Montreal Gazette* 20.11.1877·

113 Verrill 1877, 425.

114 Moses Harvey's scrapbooks contain a cutting of the Worth's Museum's advertisement of the squid they had acquired from Newfoundland. The advertisement contains a drawing of men in a boat, which enormous squid has seized in its tentacles. I suggest that Harvey's story about the encounter with fishermen and giant-sized squid in Conception Bay in 1873 inspired the illustrator of this advertisement. MG339, PANL. See also Ellis 1999, 217.

115 See e.g., Ellis 1999, 198–201. Unsurprisingly for a cryptozoologist, Bernand Heuvelmans argues that the case of *Pearl* was not necessarily a hoax. He writes a long description, including complex calculations based on historical measurements of enormous cephalopods, in an attempt to demonstrate that such a colossal cephalopod able to sink an ocean-liner may exist. Heuvelmans 1974b [1958], 399–463; Heuvelmans 2006 [1958], 221–58.

116 See e.g., *The Times* 4.7.1874; *The Boston Daily Advertiser* 17.7.1874; *The Cincinnati Commercial* 20.7.1874; *The Inter Ocean* 23.7.1874; *Daily State Gazette* 30.7.1874; *Le Rappel* 30.8.1874·

117 *The Citizen* 11.8.1874·

118 Holder 1881; Aubrey 1896; Wells 1897 [1896]. See also Babb 2009, 28–32·

119 See e.g., "The Great Devil Fish" 1877; "The Monster Devil Fish" 1877; Roberts 1878; "A Gigantic Devil-Fish" 1881; Rathbun 1881·

120 Buel 1887, 68–86; Gibson 1887, 79–138·

121 After the publication of Lee's book, several books about enormous squid have explicitly referred to it. See e.g., Muntz 1995, 11, 13–14, 18; Ellis 1999, 22–23, 197, 222–23; Ellis 2006 [1995], 119–21; Babb 2009; Williams 2011, 17; Loxton & Prothero 2013, 238; Salvador & Tomotani 2014, 979–80·

122 See Lee 1883·

123 Numerous writings about the giant squid, from the late nineteenth century to the present day, have referred to Lee's theories without historical contextualization or further analysis. His influence is clearly noticeable in the works of the twentieth-century cryptozoologists such as Bernand Heuvelmans, but also in the works of much recent writers such as Richard Ellis. See Hevuelmans 1974a [1958]; Heuvelmans 1974b [1958]; Bright 1989, 172; Muntz 1995, 11, 13–14, 18; Ellis 1999, 22–23, 197, 222–23; Ellis 2006 [1995], 119–21; Heuvelmans 2006 [1958]. See also Babb 2009; Berger 2009, 275; Williams 2011, 17; Loxton & Prothero 2013, 238; Salvador & Tomotani 2014, 979–80·

124 Lee 1883, 50–51.

125 Landrin emphasized this theory already in the late 1860s. See Landrin 1867, 52; Landrin 1870, 45; Landrin 1875, 62. During the 1870s, Packard and Harvey disseminated

the idea that the mythical Kraken is a name that frightened Norwegian fishermen gave to enormous squid after they saw one. See e.g., Packard 1872; Packard 1873, 87; Harvey 1874b, 198; *The Globe* 8.2.1879; *Montreal Gazette* 28.11.1881. Lee continued this tradition in his book. See Lee 1883, 50–51.

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The correspondence of Addison Emery Verrill (Record Unit 189).
Yale Peabody Museum of Natural History, New Haven, the United States (YPMN)
The correspondence between Addison Emery Verrill and A. G. More.

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Conclusion

In this book, I have questioned the dominant view that the giant squid has always been perceived by humans as a horrifying and repulsive creature, and critically examined the common view that exaggerated stories of the giant squid as a monster derived from the seafaring culture. These ways to understand the human–giant squid relationship have so firmly dominated the transatlantic perception of its history that nobody has previously questioned them.

The giant squid has not been understood universally and since the dawn of history as a horrifying sea monster. For instance, eighteenth-century seafarers' descriptions of enormous squid defined them as oversized squid individuals without any reference to monstrosity such as frightful appearance. The tradition that giant-sized squid were monsters did not, in any case, originate from sightings of them. The perception that the giant squid was a frightening and ugly man-eating monster is primarily a culturally constructed concept arising from the natural historical context. It was a result of speculation, including fanciful ancient and early modern accounts of monster octopuses, by late eighteenth- and nineteenth-century scholars who lacked empirical evidence of enormous cephalopods. Thus, the process by which the understanding of the enormous squid as an animal monster was shaped lasted just over a hundred years, from the late eighteenth to the end of the nineteenth century.

The meanings of horridness and repulsion did not derive from seafaring culture. Seafarers such as whalers and fishermen occasionally encountered enormous squid from the late eighteenth century to the last decades of the nineteenth century, but none of the historical sources indicate a wide understanding of giant-sized squid as monsters among this group. Instead, they understood the enormous squid as a bounty, an appreciated catch because of its utility value, especially as bait. From time to time, these squid also evoked curiosity among seafarers, but curiosity is not horror. Their interest was sparked by the size-difference among squid, and was therefore based on amazement, not fear.

The concept of the giant man-eating monster squid appeared in various publications in Europe and Northern America during the last decades of the nineteenth century, and it was eighteenth- and nineteenth-century zoologists who created the basis for the *monsterization* of the enormous squid. Inspired by the Enlightenment principle of removing mysterious and unexplainable entities from the world, some

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of the late eighteenth-century naturalists began to explain sea monsters from folk tales and pre-seventeenth-century natural history, such as the Kraken, as the animals arranged in the Linnaean taxonomy. Thus, they speculated that such stories might have derived from sightings of vicious and colossal octopuses. Naturalists had arranged the octopus in the classification system, and ancient and early modern authors had already described it as an extraordinary and murderous marine animal. Eighteenth- and nineteenth-century naturalists saw it as logical to speculate that animals such as enormous octopuses that were believable to them, even though they had not seen them themselves, were an excellent explanation for old sea monster stories. Such speculation was problematic because these naturalists did not take into account that the old sea monster stories were complex cultural phenomena, which could not be explained by actual sightings of animals alone.

The zoological writings about imagined colossal octopuses able to sink ships and offering explanations for mythical entities such as the Kraken circulated to a broader audience during the early nineteenth century. Simultaneously, a broader public began to absorb knowledge about the enormous squid. Despite this, zoologists and other people interested in marine life did not generally realize or show much interest in the actuality of giant-sized squid before the mid-nineteenth-century. Especially the majority of early nineteenth-century zoologists thought squid an insignificant animal because they did not have such a remarkable past as octopuses, about which the ancient and early modern naturalists had written pages of incredible stories. Nevertheless, as knowledge of the enormous squid began to circulate more among zoologists and entered public discussion, the former slowly began to grasp that this animal might exist alongside the giant-sized octopuses. Because of the association between the two, the monstrous meanings attached to imagined and colossal octopuses began to accrue to enormous squid as well, in both natural-historical and popular-scientific publications.

During the last decades of the nineteenth century, numerous sightings of enormous squid circulated among zoologists and a broader audience, at least partly because of the *cephalomania* that excited transatlantic culture from the 1860s onwards. Zoological research into giant-sized squid advanced at a rapid pace, but the genus *Architeuthis* remained a poorly known group of squid during the last decades of the nineteenth century. This unawareness of the "true nature" of the squid belonging to this genus made it vulnerable to becoming the subject of tall tales. It absorbed the meanings and took the place of the imagined colossal octopus as the most widely known cephalopod monster.

Simultaneously, as *Architeuthis* began to absorb all the symbolism previously possessed by gigantic octopuses in the public discourse, the *giant squid* established its position as a synonym for this genus. Consequently, the understanding of the giant squid as a model for fabulous ancient sea monsters such as the Kraken and even the sea serpent appeared in transatlantic culture during the last decades of the nineteenth century. In the same era, people ascribed the origins of this understanding to seafarers, whom they generally regarded as superstitious. They believed that seafarers encountering these horrible and repulsive squid had told exaggerated stories about them that later become widely known myths. As noted above, fishermen and various other seafarers, the only people who had had a shared history with corporeal enormous squid, were still encountering these animals during the late nineteenth century without perceiving them as monsters. Despite this, the understanding of the giant squid as a monster achieved its final form at the end of the nineteenth century and became fixed in transatlantic culture. It has persisted to this day.

The legacy of the monsterization of the giant squid is clearly noticeable in twentieth- and twenty-first-century popular culture. The man-eating monster squid has appeared in many novels, and several movies include scenes in which a giant squid assaults unsuspecting divers or otherwise spreads terror by its presence. The giant squid also appears as a monster in various video games. Nevertheless, the legacy of the monsterization of the large squid is not manifested only in twentieth- and twenty-first-century literature, movies, and games. The supposedly historical information about the enormous squid in many previous studies and popular-science books about the giant squid written in the twentieth century or during recent decades builds on the late nineteenth-century writings about these marine animals. Modern studies of the giant squid have primarily repeated the old interpretations of the relationship between these squid and humans, instead of analyzing old sources about enormous squid in their historical context and taking all the agents involved in the creation of such sources into consideration.

This book demonstrates the necessity of historical contextualization as a precondition for the comprehensive understanding of a past phenomenon. One cannot simply draw conclusions about how things were understood in the past by reading one type of historical source or by taking the previous tradition for granted. One needs to pay attention to the people who produced the source, the period in which it was made, what happened during that era and how all this influenced the production of the source.

The comprehensive approach to the historical understanding of enormous squid utilized in this book has resulted in new insights into the subject, but also into transatlantic history from the late eighteenth century to the turn of the twentieth century. This book helps us to understand the ways in which whalers and fishermen perceived nature and the sea, and how the study of cephalopods and other molluscs was generated and developed during the period. It also shows how transatlantic culture gradually became more interested in marine life during the eighteenth and nineteenth centuries.

This book belongs primarily to the field of historical animal studies. However, as most previous studies have focused mainly on mammals and other animals taxonomically closer to humans than squid, it is unusual in the field. I hope that this book has successfully demonstrated that the strongly hierarchical post-enlightenment way of perceiving animals should not determine the focus of research on nonhuman animals as strongly as it does today. For instance, molluscs and insects are remarkable animals and they have had a significant impact on history; like mammals (including humans), they have made the present what it is. My analysis of the shared history between enormous squid and humans has hopefully shown that a novel and fresh perspective on the past can be obtained through studies of interaction between *all* species of nonhuman animals and humankind. Thus, I encourage especially historians and other scholars interested in human-animal studies to acknowledge the whole biodiversity of the earth.

I would also like to emphasize the significance of human-animal studies generally as a part of historical studies. As I have shown in this work, recognizing animals as actors that have shaped the past challenges previous interpretations. Studying history merely from the perspective of human-animal relationship gives novel viewpoints on the past. Thus, I hope that researchers of history will take more note of living beings other than humans in the future. For instance, the beings dwelling in the depths of the sea have a role in our history. Without them, it would be different than it is today.

Moreover, the study of history does not only tell us what happened in the past, it describes how the present day and our contemporary understanding of the world around us has shaped. This book, for instance, reveals how we humans have given different kinds of negative meanings to nature. It is important to realize how these kinds of long-term meaning-making processes occur, because we live in a time defined by environmental disasters such as climate change and biodiversity loss. For example, to prevent species loss, it is necessary for us to understand and perceive in detail how the process of meaning-making to animals takes place. This is important for us that we can learn new and more sustainable ways to co-exist with other animals. As this book shows, giant squid was not defined as a monstrous and repulsive animal in the transatlantic culture because of the natural tendency of humans to fear and hate cephalopods. The reason for the monsterization of the giant squid was above all our cultural way to define nature around us.

In any case, the giant squid is not the only animal species to have been subjected to such meaning-making process, and it certainly will not be the last unless we start changing our relationship with nature. There is a similar process of meaning-making and monsterization in relation to many unwanted animal species today. Sharks, for example, have suffered of monsterization throughout the twentieth century, which has also been partly the cause of the large decline in shark populations over the past decades. Wolves have also been subject for the same kind of meaning-making process in the Nordic countries from the late nineteenth century to these days and there is still a heated debate, for instance, in Finland about reducing wolf populations.

It is clear that strangeness, otherness and uncontrollability frighten modern human, who for a few centuries has fallen into the illusion of being able to isolate oneself beyond nature – to be its opposite. This fear of uncontrollable nature has been highlighted by monsterization, which in many cases has also been followed by anger. This is not, however, a sustainable approach, as we humans share this earth with countless other organisms on whose existence we depend. The immeasurably abundant biodiversity on our planet is ultimately very fragile and rapid variations in species numbers may cause unprecedented changes to the lives of all living beings including humans. This applies also to the undersea life. Although marine life seems distant to us, it also affects us and vice versa, if not directly, then indirectly. For example, it might surprise many people that ocean-living phytoplankton produces up to 70 percent of the Earth's oxygen, according to some studies. Thus, phytoplankton is a prerequisite of life for humans too. That is, the sea and its life is therefore by no means something that would have no effect on humans.

Hence, instead of fear and anger, we must learn to be enchanted by the diversity of life, and marvel the numerous wonderful organisms on Earth. There is a potential for change in the human relationship with nature. I hope that this book will contribute to this change not only concerning giant squid but also other non-human beings on our shared planet.

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